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*Xiaojing Zheng*



# The Influence and Connection of Physical Exercise in Higher Vocational Schools on the Mental Health of Higher Vocational Students

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**Abstract:** In recent years, as the country attaches importance to vocational education, it hopes to achieve the purpose of promoting high-quality development of vocational education, improving the quality and technical skill level of workers, promoting employment and entrepreneurship, and building a strong education country, a strong human resource country and a skill-based society. Higher vocational colleges carry out continuous development, the continuous development of higher vocational education, and the cultivation of higher vocational students has become an important part of higher vocational education. The mental health of higher vocational students is one of the key concerns of the society at present, and their mental health condition is much less concerned than that of undergraduate students. Therefore, this paper takes college students in higher vocational institutions as the research object to analyze their mental health condition and the influence of physical exercise on them, so as to provide theoretical basis for promoting higher vocational physical exercise in order to improve the mental health of college students in higher vocational institutions.

**Keywords:** Physical exercise; Mental health; Higher education students

## 1. INTRODUCTION

As a student manager, it is an important task as a college counselor to ensure that students learn and maintain a healthy mental state at the same time. Physical exercise, as an important part of vocational education, also undertakes the important task of cultivating the physical and mental health of higher vocational students. This paper collates the influence of physical exercise on the mental health of higher vocational students by reviewing relevant information and experimental research, and summarizes the suggestions for the development of physical exercise in higher vocational institutions.

## 2. RELATED CONCEPT DEFINITION

### 2.1 PHYSICAL EDUCATION

Students in higher education institutions are required to take physical education courses during their school years, and therefore, they all engage in physical exercise to varying degrees. There is no unified and clear definition of the concept of physical exercise. In

China, physical exercise, also called physical exercise, is one of the basic ways to achieve the purpose and tasks of sports in China. It is the basic form and method of activity of mass sports, as well as school sports and competitive sports [1]. In the Dictionary of Sports Science, physical exercise is defined as: physical activities that use various methods of physical exercises, combined with natural forces and health measures, for the purpose of strengthening the body, regulating the spirit, and enriching cultural life, which is the most active and effective way to promote physical health and enhance physical fitness.

### 2.2 MENTAL HEALTH

Many experts at home and abroad have made profound studies and discussions on the definition of mental health. So far, there is no unified definition and precise discussion about the meaning of mental health at home and abroad. Western psychologists have the following views on mental health, Menniger (K. Menniger) believes that: psychologically healthy people have the highest efficiency and happy adaptation to the environment and to each other. Not only efficiency, not only satisfaction, or happy acceptance of the norms of life, but all three should be present at the same time, a mentally healthy person should be able to maintain a calm mood, sharp intelligence, and a pleasant temperament. [2] The definition of the United Nations World Health Organization (WHO): mental health means not only the absence of mental diseases or perversions and good social adaptation of the individual, but also the perfection of personality and the full development of psychological potential, as well as the optimal state of mind of the individual under certain objective conditions. According to the discussion of domestic and foreign scholars and the characteristics of students' psychology, mental health refers to an individual in a certain social environment, with normal intelligence, emotional stability and moderate behavior under the condition of normal higher neurological functions. It is a good state of life in which the personality is complete and coordinated, and can better conform to the society, and has strong self-regulation ability and keep in line with the social progress.

## 3. THE CURRENT SITUATION OF MENTAL HEALTH OF HIGHER VOCATIONAL STUDENTS

Motivation, emotional state, self-awareness, interpersonal relationships and subjective well-being are important components of psychological health of higher education students and sensitive indicators of their psychological health level [3].

Learning motivation refers to the internal motivation of students to learn, which is what drives and motivates them to learn. The appropriate level of learning motivation is one of the necessary conditions to measure the psychological health of higher vocational students. According to Qiu Kaijin's research on the psychological health of higher vocational students, 43.8% of students voluntarily enter higher vocational colleges and 50% of respondents choose "unsatisfactory results in college entrance examination" as the main reason to study in higher vocational colleges. Based on the above factors, some negative psychological characteristics of higher vocational students appear in the freshman period after entering school, showing a lack of initiative and conscientiousness in learning, difficulty in mastering theoretical knowledge, aversion to learning, and lack of confidence in their majors. Lack of enthusiasm and confidence in learning.

Emotion is the experience of a person's attitude toward objective things, and is a reflection of whether or not a person's needs are met. It reflects the state of integration of mind and body, and is an important means of adapting to the environment. It is also the weather vane of mental health. For the emotional state of senior students, we mainly analyze their emotional stability, and see whether they are optimistic and positive. According to the survey, more than 40% of the students said that they "can handle things calmly and composedly, and can control their emotions well: and most of the students in the interview said that being impulsive is a reflection of immaturity". The results show that the emotional state of college students is relatively stable. They can deal with the things happening in the external environment calmly and rationally. However, the survey also shows that 26% of the higher vocational students' moods change with the changes of the surrounding atmosphere; 10% of the students think their emotions are easy to be impulsive; which indicates that the emotional stability of higher vocational students is relative. Facing specific things and actions are prone to negative emotions).

The self-awareness of higher vocational students has the following characteristics self-awareness becomes clearer with age, and is active and proactive; self-awareness is profound and extensive, evaluation ability is increasing, and the individualization of value subjects is respected; self-control ability becomes stronger; but it lacks stability.

#### **4. THE IMPACT OF PHYSICAL EXERCISE ON MENTAL HEALTH**

Physical exercise, which is planned, regular, and scientific physical activity, aims to promote health,

enhance physical fitness to regulate the spirit and enrich cultural life [4]. It is well known that physical exercise can not only improve one's physical health, but also promote psychological health. Regular participation in physical exercise can cultivate good psychological quality. Eliminate or reduce tension, anxiety and depression: cultivate self-awareness, resilience and competitive consciousness: improve self-control flat; these psychological qualities are conducive to the formation of cheerful character, firm will and sufficient self-confidence of senior students, and happy and positive emotions can help to obtain health and happiness.

#### **4.1 CHINESE STUDIES ON SPORTS AND MENTAL HEALTH OF COLLEGE AND HIGHER EDUCATION STUDENTS**

Pingping Wu et al. investigated the relationship between recreational physical exercise and mental health among college students. The significant correlation between leisure physical exercise and perceived stress, positive emotion and academic burnout suggests that increasing leisure physical exercise among college students can improve their ability to cope with stress and trigger positive emotion, thus reducing the effect of academic burnout.

#### **4.2 FOREIGN STUDIES ON PHYSICAL EXERCISE AND MENTAL HEALTH**

Much of the foreign research on physical activity and mental health has focused on the emotional aspects of physical activity. Both long-term physical exercise (maintained for 10-12 months); and short-term physical exercise (each lasting about 30 minutes) can produce good emotional effects.

#### **4.3 EMOTIONAL EFFECTS OF LONG-TERM PHYSICAL ACTIVITY**

Health and well-being refers to the positive emotional experience and self-evaluation caused by physical activity. Snyder et al. showed that health and well-being were positively associated with long-term physical activity, and regular physical activity participants were more positively associated with self-evaluation and self-perceptions than sedentary women. Depression is a common psychological disorder. It is characterized by persistent depressed mood, slowed thinking, reduced volition, and cognitive impairment. These negative emotions are incompatible with the environment in which they occur. Long-term active physical activity can enhance physical health and improve metabolic levels, as well as promote physical and mental well-being and improve and maintain psychological status.

#### **5. SUGGESTIONS FOR PHYSICAL EDUCATION IN HIGHER VOCATIONAL INSTITUTIONS**

Physical exercise and mental health are closely related, usually male students' physical exercise behavior is more positive than female students, and female students' mental health emotion is worse than male students: and physical exercise directly affects

students' mental health. Based on the above understanding, attention should be paid to the mental health education of students in higher education institutions, emphasize the importance of physical exercise to improve the awareness and enthusiasm of students to participate in physical exercise, and improve the mental health of students in higher education institutions by advocating enhanced physical exercise time and physical fitness through schools, classroom teachers and counselors.

It is suggested that senior students should have long-term regular physical exercise during school, which helps to promote students' mental health; schools and teachers should increase publicity, organize and hold various colorful sports competitions seriously, so that students can develop the habit of exercising every day and exercising at any time, establish the awareness of lifelong sports, and try to use different exercise methods and sports items for fitness, which can both enhance physical fitness and improve mental health to a great extent [5].

Recognize and cultivate the interest of physical exercise among senior students, so that they can develop good habits of consciously and regularly participating in physical exercise. We should take physical exercise as an important means to improve students' mental health, try to increase the construction of sports venues. Increase sports facilities, ensure that at least three after-school exercises are arranged and organized every week, scientifically guide and help students to choose good exercise content and sports items, good exercise content and sports items type has more obvious effect on promoting students' mental

health level [6].

To lay a good foundation for their physical and mental health development, in addition to the school physical education program, as the manager of students, school counselors should advocate students to enhance their physical fitness and improve their physical and mental health through various ways, such as conducting fun games, inter-class basketball games, sports punch cards, and holding sports-themed class meetings. And guide students to vent their emotions in a reasonable way through sports.

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# Size-wise Morphometric Measurements of Non-contact Objects

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**Abstract:** The STC8A8K64S4A12 chip of STC company is selected. The hardware module of this device mainly includes control module, communication module, display module, measurement module, power module, etc. Single-chip machine for laser head position and power adjustment, laser head swing rotating device, can control the connection frame the side of the vertical rotary stepping motor drive the laser head rotation, realize the swing of the laser head, at the same time connection frame also installed with horizontal rotating stepping motor, by controlling the stepping motor drive connection frame rotation, realize the rotation of the laser head. The shape, size and measurement of the target can be measured according to the phase difference ranging method The distance between the point of the center and the measured target and other relevant parameters, and the laser beam to indicate the central position of the measured target, so as to meet the design requirements. [1-2]

**Keywords:** STC8A8K64S4A12 module; 24 BYJ 48 stepper motor; Skyscraper L1 laser ranging module; Phase difference ranging method.

## 1. SYSTEM SCHEME

The display selects the LCD12864. It has 128 \* 64 points, can clearly display resolution less than 128 \* 64 pictures, the liquid crystal display scheme composed of the module compared with the same type of graphic dot matrix liquid crystal display module, regardless of the hardware circuit structure or display program is much simpler, and the price of the module is slightly lower than the same lattice of graphic liquid crystal module, and power consumption is low, the volume is small, and it doesn't occupy an area.

Comparison and selection of controllers using STC8A8K32S4A12 microcontroller as controller, fast computation speed, the anti-interference ability is strong, complete functions, do not need external crystal vibration / external reset, can also output clock and low level reset signal to the peripheral FPGADSP / GPU / CPUMCU, chip most function on EEPROM chip can directly simulation, itself is the simulator, no need of special simulator, can develop remote upgrade function, high reliability, low power consumption, high performance. [3]

Motor selects the stepper motor. It has excellent start-stop and reversal response, the rotation angle of the motor is proportional to the pulse number, and the maximum torque of the motor when the motor is stopped; because the speed is proportional to the pulse frequency, there is a relatively wide range of speed. Since the accuracy of each step is three to five percent, the error of the-step will not be accumulated to the next step, thus having better position accuracy and motion repetition; only the load is directly connected to the rotating shaft of the motor. [4]

## 2. THEORETICAL ANALYSIS AND CALCULATION

The movement of the laser gun in two dimensions is completed by two steering gear connected up and down, and when the PWM wave duty cycle of the input of the stepper motor is changed, the two motors control the movement in the X and Y directions, respectively. In the actual test, the distance between the laser head and the center of the measured object is 300 cm, and the maximum radius of the object is 24cm, so the maximum Angle of the laser pen is  $2\arctan\left(\frac{24}{300}\right) = 9.15^\circ$ , and the minimum Angle is at least  $\arctan\left(\frac{0.05}{3}\right) = 0.955^\circ$ .

### 2.1 LASER TRIANGLE METHOD

Fundamental:

A laser light emitted by the light source is illuminated on the plane of the measured target, and is finally imaged on the detector by reflection. When the position of the object surface is changed, the image is accordingly on the detector. See Appendix 1.

### 2.2 LASER RANGING METHOD

#### 2.2.1 BASIC PRINCIPLES

Laser has good collimation and very small divergence angle characteristics, so that the instrument can be point-to-point measurement, adapt to the very narrow and complex measurement environment. By taking advantage of these characteristics of the laser, the laser ranging method reflects the laser signal from the transmitter and hits the surface, and the reflected laser returns to the receiving device along the same path to detect the change that the distance between the laser range finder and the measured target can be calculated, as shown in Figure. 1. [5]



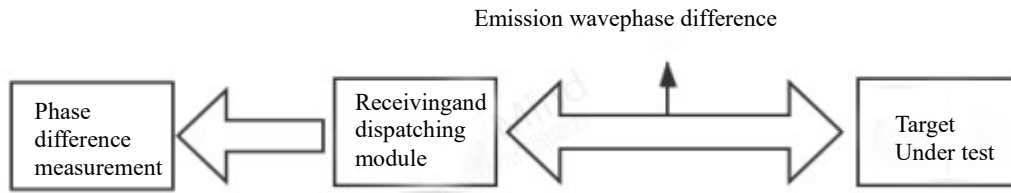


Figure 1 Phase difference ranging method

**2.2.2 CORRELATION CALCULATION**

In the laser phase ranging, the continuous laser amplitude is modulated, the light intensity of the modulation light changes periodically with time, and the time and distance of the phase change of the modulation light can determine the time and distance. Let the distance between the emission and the reflection (sphere) be  $x$ , the speed of the laser be  $c$ , and the time between the laser and them , Let the modulation wave frequency be  $f$ , and the phase difference between emission to receiver is  $\phi$ , then:

$$\Phi = 2\pi ft = \frac{4\pi fx}{c} = 2\pi N + \Delta\phi \quad (1)$$

Wherein,  $N$  is the number of complete periodic waves and  $\Delta\phi$  is the residual phase of the subperiodic wave. Therefore, it can be solved:

$$x = \frac{\Phi c}{4\pi f} = \frac{c}{2f} \cdot \frac{2\pi N + \Delta\phi}{2\pi} = \frac{c}{2f} (N + \Delta N) \quad (2)$$

Among them,  $L_s = c/2f$  is called the ruler or scale,  $N$  is the whole number of ruler,  $N = \Delta\phi/2\pi$  is the remaining ruler. According to the size of the measured phase displacement, the size of the  $N$  more than feet can be known. The whole ruler number  $N$  must be determined by selecting multiple appropriate ruler frequencies, and the selection of the ruler frequency is one of the key factors to improve the precise positioning of the container.

Circuit and program design:

According to the requirements, the system can be divided into: power supply module, control module, measurement module, display module, communication module, etc., as shown in Figure 2.

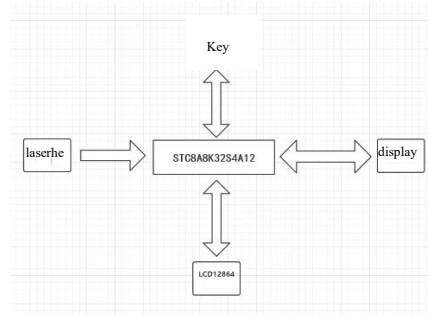


Figure 2 System block diagram

**3. RESULTS ANALYSIS:**

Based on the above data, the following conclusions can be drawn:

In measuring the side length and distance of the plane target, the error between the theoretical value and the actual value is relatively small, and the test time will also be different due to the size and shape of the plane target;

When measuring the radius of the stereo target and the nearest most distant distance, the error between the theoretical value of the radius and the actual value is relatively small, and the test time will vary due to the size of the stereo target.

In general, this design meets the design requirements.

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# Effects of SiC Contents on Sintering and Conductivity Properties of Graphite based Conductive Ceramic

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**Abstract:** In order to study effects of SiC contents on sintering and conductivity properties of graphite based conductive ceramic, relationships between SiC contents and properties containing porosity, water absorption, bending strength, microstructure and resistivity were analyzed by boiling method, three-point bending method, scanning electron microscopy and avometer. Results showed that, porosity and water absorption increased first and then decreased with SiC contents from 0wt% to 9wt%, while the bending strength showed the contrast performance. Meanwhile, resistivity experienced negative conductive zone, vadose zone conductivity and conductivity saturation region with the increase of SiC contents. When SiC contents exceed 6wt%, changes of resistivity became flat.

**Keywords:** Graphite based conductive ceramic; SiC; Sintering properties; Resistivity

## 1. INTRODUCTION

Graphite conductive ceramics are a new type of functional material with dual functions of electric heating and infrared radiation, which can be widely used in fields such as aerospace[1], electric heating, industrial heating, healthcare, etc. This material consists of two parts: ceramic substrate and graphite conductive filler, which have both excellent characteristics. However, Duan Xidong et al.[2] found that the sintering performance of graphite is poor, which to some extent hinders the sintering of the material, thereby affecting its mechanical and electrical properties.

This article uses SiC as an additive to dope and modify graphite conductive ceramics in order to improve the various properties of the material. By adjusting the content of SiC in graphite conductive ceramics, the effect of SiC content on the sintering and conductive properties of graphite conductive ceramics was studied.

## 2. EXPERIMENTAL

### 2.1 EXPERIMENTAL MATERIALS

Industrial feldspar, diopside  $\alpha$ - Quartz, the conductive filler is natural flake graphite (purity 99%, particle size 250 mesh), and the additive is SiC (purity 99%, particle size 300 mesh).

### 2.2 SAMPLE PREPARATION

Weigh the raw materials according to the formula shown in Table 1, add a certain amount of

dispersant, binder, and water, and ball mill them on a planetary ball mill for 2 hours. After drying, granulation, and aging, it is dry pressed and formed at 20MPa. Then, perform rapid sintering on it, raise it to 1120 °C at a heating rate of 25 °C/min and hold it for 2 hours, then cool it down with the furnace

Tab.1 Compositions of various samples (wt/%)

Samples number	Ceramic matrix	Graphite	SiC	Balance
a	89	10	0	1
b	88	10	1	1
c	86	10	3	1
d	83	10	6	1
e	80	10	9	1

## 2.3 PERFORMANCE TESTING

According to the principle of Archimedes, the porosity and water absorption of materials were measured by boiling method; Using the three-point bending method to test the bending strength of materials on a WDW universal testing machine; Observing the dispersion and connection status of conductive fillers in composite materials using Dutch Philip FEI-2000 scanning electron microscopy; Measure the material resistance value R using a multimeter, according to the formula  $\rho = RA/l$  Calculate resistivity  $\rho$  (A is the cross-sectional area, l is the length).

## 3. RESULTS AND DISCUSSION

### 3.1 EFFECT OF SiC CONTENT ON SINTERING PERFORMANCE

The effect of SiC content on the sintering properties of graphite conductive ceramics, such as porosity, water absorption, and bending strength, can be obtained from Figure 1. With the increase of SiC content, the porosity and water absorption of graphite conductive ceramics first increase and then decrease, while the bending strength is exactly the opposite, showing a decrease first and then increase.

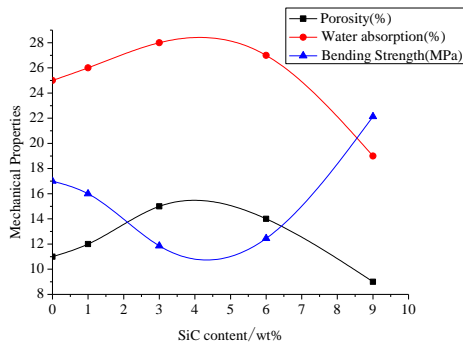


Fig.1 Influence of SiC contents on sintering properties of graphite based conductive ceramic  
 Porosity and water absorption are important indicators for judging the performance of ceramic products, which have a crucial impact on the size of bending strength. The relationship between porosity and bending strength can be described by formula(1)[3]:

$$\sigma = \sigma_0 e^{-k\alpha} \quad (1)$$

In the equation:  $\sigma$ -The bending strength of porous materials;  $\sigma_0$ -bending strength of non porous materials;  $\alpha$ -Porosity,  $k$ -constant. It can be seen that the bending strength of the composite is an exponential function of the opposite number porosity. When the porosity increases, the effective cross-sectional area of the material is reduced, resulting in stress concentration and a decrease in strength. On the contrary, the porosity decreases and the bending strength increases. Therefore, when the SiC content increases from 0wt% to 9wt%, the trend of changes in bending strength and porosity is exactly opposite.

Since the relationship between bending strength and porosity has been clearly defined, what affects the changes in porosity? This requires a sufficient understanding of the thermodynamic and kinetic processes of internal chemical reactions in materials. Under aerobic conditions, the oxidation reactions that can occur in graphite conductive ceramics containing SiC mainly include[4-8]:

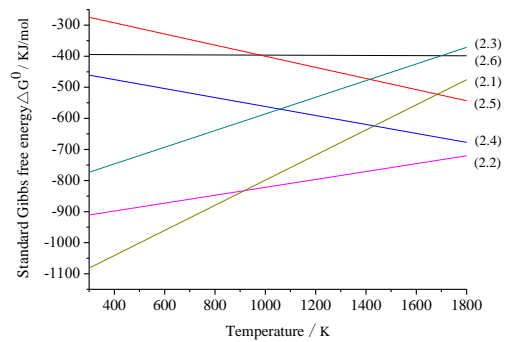
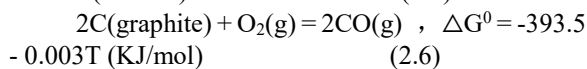
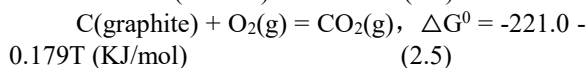
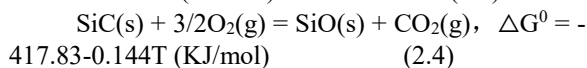
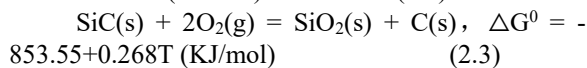
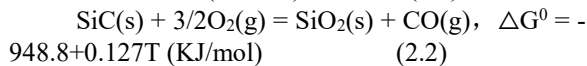
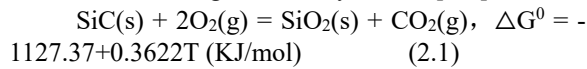
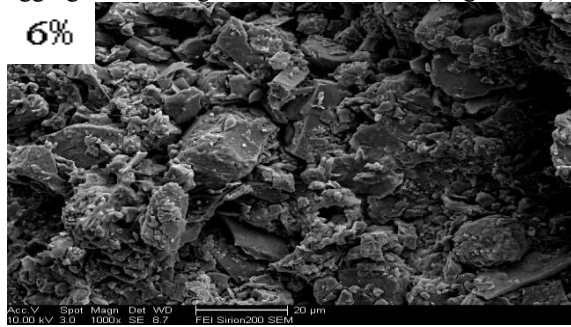


Fig.2 Relationships between standard Gibbs free energy and temperature

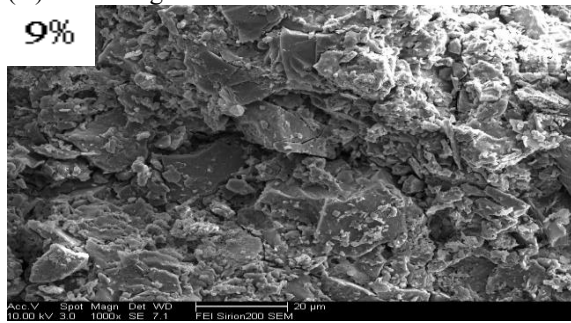
According to literature[9], SiC is easily oxidized at 900~1200°C, with an average apparent activation energy of 143.4KJ/mol. However, the oxidation product SiO<sub>2</sub> will form a protective film on the surface of SiC particles, which can only affect the SiC particles in the form of internal diffusion, thereby greatly weakening the oxidation of SiC. The chemical reaction activation energy of graphite oxidation process is about 170-180 KJ/mol[10], which is inferior to the early reaction rate of SiC. However, after the formation of SiO<sub>2</sub> protective film, the reaction rate of graphite is faster.

Due to the rapid sintering system used in this experiment, the focus is on analyzing the high-temperature state. When the SiC content is 0wt%, oxidation reactions occur preferentially within the conductive ceramic according to equation(2.5), and the reaction product CO<sub>2</sub> escapes in the form of gas, forming residual pores in the ceramic matrix, resulting in a higher porosity. When the SiC content is 1wt%, the(2.2) reaction first occurs, and after the formation of the SiO<sub>2</sub> protective film, the(2.5) reaction occurs. During this process, the porosity increases, and in addition to the contributions of the two gas products CO and CO<sub>2</sub>, the other reaction product SiO<sub>2</sub> also plays a crucial role. There are two reasons: firstly, SiO<sub>2</sub> belongs to the ridged material, which will generate volume expansion at high temperatures, offsetting the shrinkage of the body while increasing the porosity; Secondly, the pores caused by the volume expansion of SiO<sub>2</sub> provide channels for the diffusion of external oxygen into the green body, which to some extent intensifies the(2.5) reaction and is conducive to the generation of more CO<sub>2</sub>. Compared to sample b, the amount of SiO<sub>2</sub> generated in sample c further increases, thus strengthening its expansion effect and ability to promote(2.5) reaction, leading to a further increase in porosity. As the SiC content further increases to 6wt%, the air inside the green body is gradually consumed until it is insufficient to ensure the continuation of the oxidation reaction. SiC is excessive, and unreacted SiC accumulates between the ceramic phases in the form of granular crystals(Figure 3A), effectively filling the pores inside the green body

and blocking the channels for oxygen diffusion inside the green body, thereby reducing the porosity. The more SiC content added, the more granular crystals aggregate, resulting in a denser structure (Figure 3B).



(A) SiC adding 6wt%



(B) SiC adding 9wt%

Fig.3 SEM micrographs of graphite/ceramic conductive composites with different SiC contents

### 3.2 EFFECT OF SiC CONTENT ON CONDUCTIVITY

Figure 4 shows the effect of SiC content on the resistivity of graphite conductive ceramics. As the SiC content increases, the resistivity of conductive ceramics undergoes poor conductive zone (I), conductive percolation zone (II), and conductive saturation zone (III) in sequence. When the SiC content is low, the material exhibits a higher electrical resistivity, which means it experiences a poor conductive zone (I). As the SiC content increases to a certain critical value, the material's resistivity sharply decreases, showing a narrow and abrupt region in Figure 4. A small change in SiC content within this region will cause a significant change in resistivity, which is called the "percolation" phenomenon. This narrow region is called the conductive percolation zone (II). After the conductive percolation zone, as the SiC content increases, the decrease in resistivity tends to flatten out or even no longer changes, entering the conductive saturation zone (III).

The variation of resistivity with SiC content can be explained by the infinite network chain theory [11]. When the SiC content is 0wt%, graphite is prone to oxidation at high temperatures, which inevitably affects the number of conductive chains in graphite, resulting in a higher resistivity. With the addition of SiC, in addition to the reduction of conductive chains caused by graphite oxidation, the

volume expansion of reaction product  $\text{SiO}_2$  at high temperatures can also cause some graphite conductive chains to break. At this time, the resistivity mainly depends on the ceramic matrix, thus further increasing. As the SiC content continues to increase until excessive, unreacted SiC particles are filled between ceramic phases and come into contact with graphite. Therefore, SiC particles overlap with graphite particles to form a new conductive network chain. At this time, the resistivity mainly depends on the conductivity of SiC and graphite, so the resistivity decreases sharply. If the SiC content continues to increase, only the number of conductive chains will increase, so the resistivity of the composite material decreases with the increase of SiC content, but the decreasing trend slows down.

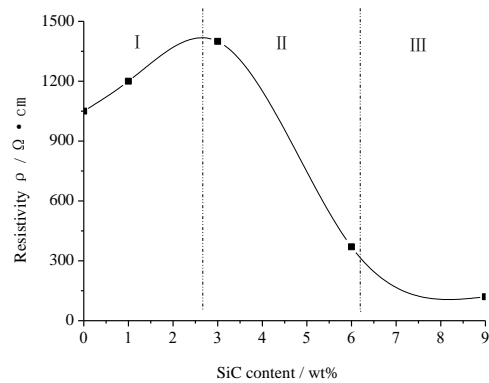


Fig.4 Influence of SiC contents on the resistivity of graphite based conductive ceramic

### 4. CONCLUSIONS

As the SiC content increases from 0wt% to 9wt%, the porosity and water absorption of graphite conductive ceramics first increase and then decrease, while the bending strength is the opposite, showing a decrease first and then increase.

In graphite conductive ceramics doped with SiC, the reaction rate of SiC is faster in the early stage of the reaction, while after the formation of  $\text{SiO}_2$  protective film, graphite oxidation is the main reaction.

The resistivity of graphite conductive ceramics undergoes poor conductivity zone, conductive percolation zone, and conductive saturation zone as the SiC content increases. When the SiC content exceeds 6wt%, the change in material resistivity tends to be gradual.

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# Research on the Fault Analysis, Effective Control and Maintenance Strategy of Hydraulic Cylinder Leakage

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**Abstract:** As an important part of the hydraulic transmission system, the hydraulic cylinder plays a decisive role in the operation safety of the entire equipment, so we must pay attention to the leakage of the hydraulic cylinder during the operation of the equipment, and take effective measures to effectively control it to ensure the safe operation of the mechanical equipment. In order to avoid the problems such as slow down and insufficient pressure caused by hydraulic cylinder leakage to the hydraulic system, the hydraulic cylinder leakage fault mechanism is deeply analyzed. According to the leakage form of hydraulic cylinder, the leakage fault is divided into two states: external leakage and internal leakage. In this paper, a hydraulic cylinder leakage case is used to illustrate the fault diagnosis and removal of broken hydraulic cylinder leakage.

**Keywords:** Hydraulic Cylinder; Leak; Be Sealed; Maintenance Strategy.

## 1. INTRODUCTION

Hydraulic cylinder is the actuator in hydraulic transmission, it converts hydraulic energy into mechanical energy to achieve reciprocating linear motion or rotary swing motion, and lever, connecting rod, crankshaft, rack, gear, CAM and other mechanisms used together, can expand the scope of use of hydraulic cylinder and the flexibility of the mechanism. Because the movement speed of the hydraulic cylinder can be adjusted by the control of the hydraulic valve, it can carry out a large range of endless speed change in the working process, and the speed ratio is large, the operating force is small, and this role can not be replaced by the mechanical actuator. The hydraulic cylinder is generally equipped with an exhaust device and a buffer device, so its movement is good, and it can change speed and change direction quickly and without impact during movement, and it is easy to operate. The hydraulic cylinder is connected with the hydraulic valve and the hydraulic pump by the pipeline, and its installation freedom is large, and it can be arbitrarily arranged in the appropriate position. The hydraulic cylinder usually acts directly with the load at work, is exposed to the working environment without any protective measures, and outputs the force or displacement directly acting on the load, so

the load condition of the hydraulic cylinder in the actual working condition is very complicated. Such harsh working conditions put forward very strict requirements for the performance of the hydraulic cylinder, and the performance of the hydraulic cylinder often directly determines the performance of the hydraulic system of the entire mechanical equipment, and the hydraulic cylinder is mainly suitable for special large mechanical equipment with strong bearing capacity. If the performance of the hydraulic cylinder is not stable enough, it is easy to lead to the functional failure of the mechanical equipment. Even very serious production accidents [1].

Hydraulic cylinder failure types are very diverse, the main types of failure include crawling, impact, external leakage, internal leakage, insufficient thrust, working speed decline [2]. At present, for the fault types of hydraulic cylinders, leakage (including internal leakage and external leakage) is one of the more common fault types of hydraulic cylinders [3].

Hydraulic cylinder leakage is divided into internal leakage and external leakage, as shown in Figure 1. The current national test standards and industrial test standards for hydraulic cylinder leakage fault detection are also divided into internal leakage fault detection and external leakage fault detection test types [4]. When the hydraulic oil flows from the inside of the hydraulic cylinder to the outside of the hydraulic cylinder, the leakage formed is an external leak, which generally occurs in the joint of the piston rod and the cylinder head, the inlet and outlet of the oil, the buffer regulating valve, the exhaust valve, the cylinder and the cylinder head, etc., and is easier to be found. When the hydraulic oil inside the hydraulic cylinder flows from the high pressure chamber into the low pressure chamber, the resulting leakage is internal leakage, which mainly occurs at the connection between the piston hole and the piston rod, the contact surface between the piston and the inner wall of the cylinder, resulting in oil leakage from the high pressure chamber inside the cylinder to the low pressure chamber, which is not easy to be found. Internal leakage is easy to make the hydraulic cylinder crawling, insufficient thrust, speed drop, unstable work and other

abnormal phenomena, which will seriously affect the dynamic performance of the system[5-6].

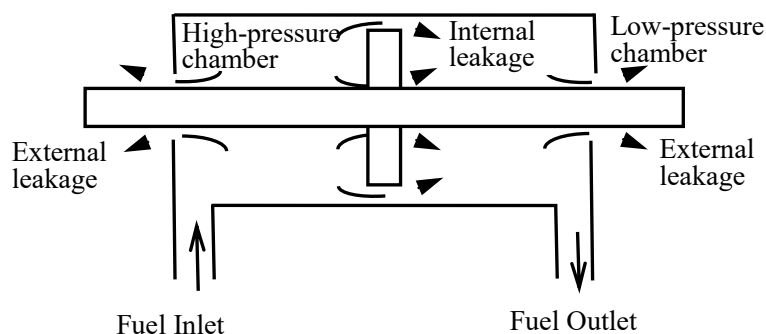


Figure 1 Internal leakage and external leakage of hydraulic cylinder

## 2. THE CAUSE OF HYDRAULIC CYLINDER LEAKAGE

### 2.1 INFLUENCE OF BENDING, STRAIN AND DEFORMATION OF PISTON ROD ON LEAKAGE

Allow a certain degree of oil leakage between the piston rod surface and the seal to play a role in lubricating and reducing friction, but require that the piston rod cannot leak oil when it is stationary. If the hydraulic cylinder is reciprocated without oil leakage, the surface of the piston rod and the seal will be in a dry friction state, which will aggravate the wear of the seal and greatly shorten its service life. The center line of cylinder is different from the center line of piston rod, and the piston rod is partially worn during reciprocating movement, resulting in excessive wear and leakage of hydraulic cylinder. The center line of the hinged hole at both ends of the hydraulic cylinder is not perpendicular to the center line of the piston rod, resulting in the force on both ends of the piston rod is not in the same straight line, so it is easy to cause the piston rod to bend and deform under lateral force; The gap between the hinged holes at both ends of the hydraulic cylinder is too large, and the piston rod will be deformed and bent in the reciprocating movement. When the piston rod is exposed to the outside, it is easy to adhere to dust, sand, metal chips, etc., and the reciprocating movement of the piston rod causes the surface strain of the piston rod, thus accelerating the wear of the seal, leading to the occurrence of leakage.

### 2.2 INFLUENCE OF STRUCTION FORM AND MATERIAL OF SEALS ON LEAKAGE

There are various structural forms of seals, and different materials should be selected according to the working pressure of the cylinder, the reciprocating speed of the piston rod, and the working temperature of the cylinder. If the sealing material is too soft, the seal is easy to squeeze into the seal gap and damage when the hydraulic cylinder is working, resulting in the leakage of hydraulic oil.

### 2.3 INFLUENCE OF SURFACE QUALITY BETWEEN SEALING GROOVE AND SEALING PART ON LEAKAGE

Low dimensional accuracy, surface roughness and low form and position tolerance will lead to seal damage and hydraulic oil leakage.

### 2.4 INFLUENCE OF WEAR AND INSTALLATION OF SEALS ON LEAKAGE

The installation position of seals requires high dimensional accuracy and shape position accuracy. The wear and tear of seals and the damage caused during assembly are one of the main causes of hydraulic oil leakage.

### 2.5 INFLUENCE OF SEALS FAILURE ON LEAKAGE

The high working temperature of the seal will accelerate the aging of the seal, resulting in the failure of the seal and leakage. When the hydraulic system is contaminated, the hydraulic oil containing particulate matter acts on the moving surface of the seal, which will have an abrasive effect, resulting in excessive wear and leakage of the seal.

### 2.6 INFLUENCE OF HYDRAULIC BUFFER VALVE WEAR ON LEAKAGE

For a hydraulic cylinder containing a buffer valve, the wear of the spool and seat of the hydraulic buffer valve is the cause of leakage of the hydraulic cylinder.

## 3. LEAKAGE PREVENTION

After analyzing the causes of hydraulic cylinder leakage, it is necessary to actively explore the corresponding effective prevention and control countermeasures in order to provide reliability assurance for the hydraulic system to maintain normal operation. To a certain extent, a comprehensive grasp of effective prevention and control of the internal leakage of the hydraulic system implementation strategy can ensure that the scientific and technological advantages of hydraulic transmission can be effectively played. Due to the many factors that induce leakage problems in the hydraulic system, it is difficult to effectively eradicate the internal leakage problem of the

hydraulic system with current technical capabilities, but it is still possible to start from the source of the internal leakage problem of the hydraulic system, and actively implement effective prevention and control measures to control the leakage problem of the hydraulic cylinder as much as possible.

### **3.1 CONTROL TEMPERATURE CHANGES**

Controlling the temperature change in the hydraulic system is an effective measure to control the leakage of the hydraulic transmission system. The high temperature is also an important factor in the hydraulic transmission system that can cause the deterioration of seals. The hydraulic oil operating temperature of the hydraulic transmission system should be controlled between 30 ° C and 60 ° C, the temperature is too high or too low will bring adverse effects, in short, it is extremely important to control the oil temperature through various facilities. To control the temperature change, start with the fuel tank and the hydraulic pipe. The separator is used in the process of oil discharge and oil return inside the tank to further improve the heat dissipation effect of the tank. The temperature of the oil tank hydraulic oil is generally controlled between 55 ° C and 65 ° C, and can not be higher than 70 ° C. If the natural cooling oil temperature exceeds 70 ° C, a cooling water pipe can be added inside the oil tank or a cooler can be set on the oil return circuit to control the oil temperature change. Minimize the interval between the tank and the actuator, reduce the elbow of the pipeline, and reduce the degree of pressure loss. In the case of meeting these factors, choose the appropriate brand and model of hydraulic oil to ensure that the viscosity of the hydraulic oil meets the operating requirements and avoid the oil temperature is too high because the viscosity is too low.

### **3.2 PREVENT THE INTRUSION OF POLLUTANTS FROM OUTSIDE**

Hydraulic cylinder work process, the piston rod is exposed to work, can be in direct contact with the external environment, due to the mechanical operation time is too long, even in the guide sleeve dust rod, there will be dust and pollutants into the hydraulic cylinder. At the same time, the pollution of fine particles is also a key factor in the wear of hydraulic components, in addition to these particle pollution, there is water pollution. Because the working conditions of the hydraulic transmission system are wet, it is inevitable that the hydraulic transmission system is invaded by water during the operation. After the hydraulic transmission system has water, the water will react with the hydraulic oil to form some acidic substances and some sludge, which will also reduce the lubrication of the hydraulic oil to some extent and increase the wear of the internal components of the hydraulic transmission system. Therefore, in order to prevent the entry of dust and pollutants, we need to use some

dust rings, dust covers, dust bars and other items to protect the piston rod, which can not only reduce the entry of dust, particles and other pollutants to a certain extent, but also reduce the wear of the internal components of the pressure transmission system. Protective measures should be taken in the storage, transfer and filling of hydraulic oil to prevent it from being contaminated. The hydraulic oil passes through the filter before entering the system. Therefore, when the system is designed, in order to avoid the intrusion of dust, abrasive and coolant during operation, resulting in hydraulic oil pollution, an air filter or a sealed oil tank can be installed on the breathing hole of the fuel tank, and a dust-proof seal should also be installed at the end of the piston rod of the hydraulic cylinder, and it should be checked and replaced regularly.

### **3.3 IMPROVING THE FILTER PERFORMANCE**

The performance of the filter directly determines the quality of the oil, and improving the performance of the filter is an important measure to effectively control the pollution of hydraulic oil. The high-performance filter can continuously filter out the pollutants generated inside the system and external intrusion in the work, improve the cleanliness of the hydraulic oil, and reduce the incidence of system leakage. Therefore, equipment operators should pay more attention to the filter in the operation of the equipment, and periodically check, clean and replace the filter in the production process to ensure the filter effect.

### **3.4 REDUCE SHOCK AND VIBRATION**

When the hydraulic cylinder is greatly impacted, the gap between its internal parts will be too large, resulting in vibration and noise, but also cause the leakage of the hydraulic cylinder, so reducing the number of shocks and vibrations received by the hydraulic cylinder is also an effective measure to prevent the leakage of the hydraulic cylinder. For example, laying rubber pads on the hydraulic device surface to cushion the vibration, using accumulators and rubber hoses to reduce the vibration caused by pressure pulses, increasing the buffer device in the hydraulic cylinder to reduce the impact of the piston on the cylinder. Set up pipes correctly and minimize the number of pipe connections.

### **3.5 REDUCE WEAR OF DYNAMIC SEALS**

For the leakage problem caused by the serious wear of the seal ring during the use of the equipment, it is necessary to strictly control the load of the seal on the piston rod and the drive shaft, strengthen the protection degree of the piston rod with the help of the dust ring, protective cover and other facilities to prevent pollutants from entering the piston rod, and select the appropriate filtration equipment, as well as the fuel tank for easy cleaning, and clean the fuel tank in time. Prevent impurities from accumulating in the tank and causing system failure.



### 3.6 CHECK AND REPLACE HYDRAULIC OIL REGULARLY

Check and replace hydraulic oil regularly, strictly control the quality of hydraulic oil, and use the same trademark hydraulic oil as much as possible. If there is no suitable hydraulic oil of the same trademark in the production process, the equipment must be strictly cleaned before replacement, and the original hydraulic oil must be cleaned

Clean, replace all hydraulic oil, and periodically sample and analyze hydraulic oil to ensure that the quality of hydraulic oil meets the needs of equipment operation. When excessive contamination is found, it must be replaced immediately. Before replacing the new hydraulic oil, the system must be clean.

### 3.7 REASONABLE SELECTION OF SEALING DEVICES

Understand the methods and characteristics of various sealing equipment, the characteristics of sealing materials and the application conditions of sealing equipment, according to the performance of the equipment and the actual operating conditions of the equipment to choose the appropriate sealing equipment, which can not only effectively control the leakage problem of the system, but also further improve the service life and work efficiency of the equipment.

## 4. CASE ANALYSIS OF LEAKAGE OF A HYDRAULIC CYLINDER

The hydraulic press is a key equipment in the process of manufacturing rubber products. The key action of the hydraulic press is driven by the cylinder to realize the upper and lower opening and closing die. In the actual use of the device, the most headache for users is the leakage problem. Next, we take the opening and closing die cylinder as an example to analyze its leakage phenomenon, cause analysis and maintenance countermeasures.

The function of the opening and closing die cylinder is to drive the beam up and down to make the die open and close. The cylinder is characterized by long travel and heavy load. In the process of use, the common leakage phenomenon of the cylinder is shown in Figure 2.



Figure 2 Leakage phenomenon of oil cylinder of opening and closing die

The ambient temperature of the equipment is 7 ~ 70°C, and the relative humidity can be as high as 95%. Oil

leakage was found in the connection of piston rod and cylinder head during the use of the equipment. After the upper cylinder head is removed, its physical object is shown in Figure 2. The sealing structure includes: dust ring, U-shaped sealing ring, Sterseal and copper guide ring, and its structure is shown in Figure 3.



Figure 3 Physical picture of cylinder head seal

After disassembling the hydraulic cylinder, it was found that the surface of the outermost dust ring had no obvious strain and wear; In the middle is a U-shaped ring. It is found that the inner surface of the U-shaped ring has traces of strain throughout the circle, and local indentation is obvious, as shown in Figure 4. In the innermost part, fine particles of metal were found on the O-ring surface, as shown in Figure 5.



Figure 4 Strain on Stefon's surface

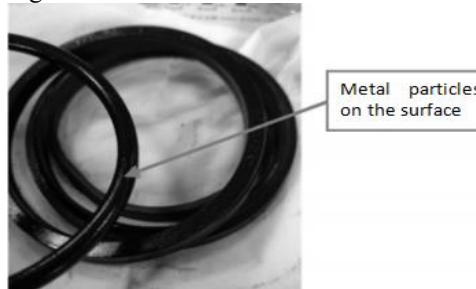


Figure 5 O-ring surface contamination

In summary, oil seal failure is the cause of leakage. The observed phenomena (strain on the inner surface of Steffen, oil metal particles on the surface of O-ring) indicate that there are impurities and oxides in the hydraulic oil system, and the sources of impurities are as follows: the internal cleaning of the cylinder; Foreign body inside steel pipe; Hydraulic valve block processing burrs are not cleaned; The tank was not cleaned before assembly.

The countermeasure to solve the hydraulic oil pollution is to filter the hydraulic oil in the oil tank by external circulation, install a 5µm filter element on the external circulation hydraulic car, and filter the hydraulic oil in the oil tank for 3 to 5 cycles.

Through the above analysis and solution of the causes of hydraulic leakage, the reliability and service life of the cylinder are improved, and the problem of cylinder leakage of the opening and closing die is fundamentally solved.

### **5. CONCLUSIONS**

Hydraulic cylinder is widely used in industrial production, and plays an important role, once the hydraulic cylinder leakage, not timely treatment, it will seriously affect the production of enterprises, and even cause downtime and fire, to bring huge losses to enterprises, so we must strengthen the control of hydraulic transmission system leakage. In order to control it and improve the work efficiency of the production line, the oil temperature of the hydraulic equipment should be controlled, the suitable seals should be selected and the shock and vibration should be avoided as much as possible to reduce the frequency of leakage problems. In addition to strengthening the performance of the system itself, personnel management should also be strengthened, the professional level of the operator should be improved, regular inspections should be conducted, problems should be discovered and solved in a timely manner, to ensure the safe operation of machinery and equipment, and to lay a solid foundation for the safe production of enterprises.

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# Research on CDIO Project-Based Teaching Mode Based on Cultivating Innovative Abilities of Vocational College Students

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**Abstract:** Strengthening the cultivation of innovative abilities among vocational college students and improving the level of vocational education are demands for social development in the 21st century. Integrating CDIO educational teaching methods and the quality requirements for cultivating innovative abilities, this article proposes a CDIO project-based teaching model and interprets its meaning and characteristics in conjunction with innovation and entrepreneurship courses. It also points out the important significance of studying the convergence of these two parts for current vocational education. Mobilizing students' enthusiasm and initiative in learning, and conducting dialectical thinking during this process, can help improve the success rate of innovation and entrepreneurship[1].

**Keywords:** Innovation Ability, CDIO Project-based Teaching Mode, Vocational Students.

As is well known, in the history of education, we have been using the traditional teaching model for a long time, which mainly focus on "replication" and it is the only criterion for testing learning outcomes. To some extent, the traditional teaching method can cultivate students' logical thinking ability and help them quickly master a technology in a short period of time, which is very advantageous in the production and replication work. But it can be imagined that students who have been under this teaching mode for a long time lack innovation and research awareness, and are not flexible enough in applying knowledge. The CDIO project-based teaching model can effectively compensate for the shortcomings of the traditional teaching model and is suitable for the cultivation of innovative and research-oriented talents.

## 1. THE ORIGIN AND DEVELOPMENT OF ENTREPRENEURSHIP AND INNOVATION

The entrepreneurship education for college students was originated in the United States in 1940s, with the introduction of the MBA program "Management of New Enterprises" in February 1947, Harvard Business School. In the 1960s, this innovative entrepreneur had a huge impact on both the United States and the world. Since the 21st century, deeply influenced by the United States, Western societies such as the European Union have also introduced a series of entrepreneurship education incentive policies targeting college students, which have had a profound

impact on entrepreneurship education in universities. Entrepreneurship education for foreign college students has become increasingly mature.

The prelude to entrepreneurship education in China begun at Tsinghua University in 1998. From 1998 to 2001, China entered the embryonic stage of innovation and entrepreneurship education for college students. In 2005, the Central Committee of the Communist Youth League and the China Youth Federation jointly introduced college student entrepreneurship projects. From 2002 to 2007, we were exploring innovative and entrepreneurial education for college students that is suitable for China's national conditions. After experiencing the development of innovative education from 1998 to 2007, China began to enter a new era in 2008. By 2017, the development of entrepreneurship and innovation education in universities has been gradually matured with a trend of taking the lead in the international society[2].

The challenges and opportunities of innovation and entrepreneurship education in China coexist. Under this situation, the reform of universities has increased.

## 2. THE PROBLEMS OF THE CURRENT TEACHING MODE IN ENTREPRENEURSHIP AND INNOVATION EDUCATION

Innovation and entrepreneurship education is not an "elite education" aimed at a few majors and some students, but a "broad-spectrum" education for all college students. In current research, more attention has been paid to the single role of innovation and entrepreneurship education, achieving the goal of utilitarian.

### 2.1 TEACHERS' RELATED ISSUES

In vocational education, the main problem is that the teaching methods are relatively single and some teachers' comprehensive qualities need to be improved. In terms of the comprehensive quality, vocational colleges lack experienced senior professional title teachers due to historical reasons, which can affect the teaching level. At present, teachers still adopt the traditional teaching methods, neglecting the cultivation of students' innovative awareness and abilities. In particular, the theoretical teaching model generally follows the steps of review, introduction of new courses, teaching of new knowledge, classroom exercises, summaries, and assignments. The main idea of this model is to provide systematic explanations to

the majority of students, who are relatively passive. Teachers just teach most of the class and students only follow the teacher's ideas, lacking active thinking and participation, and unable to truly understand and accept knowledge.

## **2.2 STUDENTS' RELATED ISSUES**

On the student level, the level of vocational college students is generally relatively low, especially in terms of learning awareness. However, most students currently study for the purpose of finding jobs and lack interest in learning. Therefore, classroom teaching is difficult to carry out in a good and orderly manner, letting alone carrying out entrepreneurship and innovation education teaching.

Generally speaking, based on the difficulty level of the teaching contents, it is usually two to four classes every week, and the basic process involves students' listening, students' imitating, practicing, teachers' checking and commenting. However, this model ignores students and mainly establishes their sensory experience, rather than actively constructing thinking. Moreover, most students are only listening to the parts that involve themselves, and other students or groups who are not related to them do not listen or have roughly introduced them, which make innovation and entrepreneurship education ineffective.

## **2.3 PROBLEMS IN TEACHING CONDITIONS**

There are still many teaching conditions limitations in the courses related to innovation and entrepreneurship education in vocational colleges. In terms of hardware and software, our basic facilities are not yet complete. And the evaluation and assessment mechanism for teaching effectiveness needs to be improved. Some vocational colleges are unable to monitor and understand changes in students' employment needs at any time, and their cooperation with enterprises is insufficient, failing to better consider students' employment needs. Vocational colleges lack of a unified and coordinated employment information service department, unable to effectively assist students and provide targeted guidance.

Nowadays, "mass entrepreneurship and innovation" has become a distinct theme of the times, with a group of young students who are passionate about innovation and entrepreneurship standing at the forefront; Science and technology are changing with each passing day. "Internet plus" is leading young people to build their dreams and become legends one after another. However, whether innovation and entrepreneurship education in various universities can find their own "foundation" and "soul" still needs time to test. This is actually a process of integrating innovation and entrepreneurship education with changing the current education methods.

## **3. THE COMBINATION OF CDIO EDUCATION MODEL AND ENTREPRENEURSHIP AND INNOVATION**

The CDIO education model is the latest achievement of international education reform in recent years. It is

basically consistent with the rise and development of innovation and entrepreneurship education in China. Initiated by the Massachusetts Institute of Technology in the United States, after four years of development, the CDIO education concept was established. CDIO represents concept, design, implementation, and operation, and is an organic connection established between courses through students' initiative and practice. Graduates trained by CDIO divide their abilities into four aspects: basic knowledge, personal ability, interpersonal team ability, and engineering system ability. The outline requires a comprehensive training approach to enable students to achieve predetermined goals at these four levels.

The CDIO project-based teaching model coincides with the requirements of innovation and entrepreneurship education for college students, especially those of vocational college students. This teaching mode covers all the knowledge points in the syllabus and is difficult, which can stimulate students' desire to explore and seek knowledge. Especially for teachers who use the "topic based" teaching method, they set interesting related topics to stimulate students' enthusiasm for learning. Thus, it drives students to solve a series of difficult problems in learning through processes such as investigating data, analyzing, exploring, and teacher assistance. It can cultivate students' interest in learning, problem-solving ability, knowledge application ability, teamwork ability, and innovation ability, and increase their depth and breadth of knowledge understanding.

The challenges and opportunities coexist in the new environment of innovation. Under the reverse force mechanism, innovation and entrepreneurship education in universities has also increased the pace of reform and is in full swing. Innovation and entrepreneurship education is now different from the initial stage, not limiting to teaching students various innovative consciousness to achieve the goal of entrepreneurship, but through the reform of innovation and entrepreneurship education to achieve the goal of systematizing education curriculum, scientifically implementing methods, and achieving utilitarian goals. Therefore, it is imperative to combine the CDIO "project-based" teaching form in the training and research process of innovation and entrepreneurship education for vocational college students[3].

## **4. THE PATH TO IMPROVING THE CDIO PROJECTED TEACHING MODEL FOR INNOVATION AND ENTREPRENEURSHIP AMONG COLLEGE STUDENTS**

### **4.1 IMPROVE THE QUALITY OF TEACHERS.**

The main goal of vocational colleges is to cultivate applied talents, so teachers should be practically oriented in the education and teaching process, and cultivate vocational college talents with their own characteristics. This meets the requirements of our country for talents in the 21st century. In teaching, as a teacher, we should take students as the main body,

pay attention to combining CDIO project-based teaching mode, and use conception, design, implementation, and operation as the concept to improve students' personal abilities.

In order to better cultivate students' entrepreneurial spirit and enhance their employability, teachers must pay attention to improving their own quality, establishing a comprehensive innovation and entrepreneurship education systems, and integrating teaching contents and methods related to cultivating students into their own classrooms. And it is necessary to formulate one's own teaching plans based on the actual situation of students and social development.

#### **4.2 TRANSFORM STUDENT AWARENESS.**

College students are the main force of innovation and entrepreneurship in vocational colleges, and their innovation and entrepreneurship ability is one of the effective means for vocational colleges to cultivate talents, and it is also an urgent need for the country to achieve innovation. Therefore, it is necessary to transform the consciousness of college students and guide them in innovation and entrepreneurship education from the perspectives of ideology and behaviors. The CDIO teaching model pays attention to cultivating students' innovative awareness. Through the careful design of teachers and the selective setting of learning guidance items in the curriculum, students can learn to investigate, research, discover, and solve problems on their own, changing their mentality of only wanting to graduate. Make students proactive in learning.

#### **4.3 ESTABLISH A SOUND EVALUATION AND ASSESSMENT MECHANISM AND IMPROVE BASIC TEACHING CONDITIONS AND FACILITIES**

As for the current evaluation and assessment system related to innovation and entrepreneurship education for college students in vocational education, we should also improve it. Multiple evaluation methods should

be adopted, combining theory with practice, and an elastic evaluation mechanism should be adopted. Moreover, vocational colleges should continuously expand their investment in software and hardware facilities, combining with the CDIO project-based teaching model, to improve the practical platform required for innovation and entrepreneurship courses. Especially relying on information technology, vocational colleges timely understand the students' employment needs and integrate relevant social resources. Establishing a college student employment service station enables students to receive timely assistance during exploration, monitor and track their entrepreneurial situation, and conduct evaluations to provide targeted assistance.

#### **5. CONCLUSION**

In summary, with the development of economy and culture, innovation and entrepreneurship education has become increasingly important in vocational education. Improving the overall quality of vocational teachers, transforming students' learning awareness, combining with the CDIO project-based teaching model, emphasizing the establishment and improvement of evaluation mechanisms and basic teaching facilities, thus the whole society will improve the level of the vocational education.

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# Application Research Based on The Moe Culture of "Healing" Electronic Picture Books

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**Abstract:** Objective Introducing Moe culture into the the "Healing" electronic picture books , to propose new thinking method about comforting and curing the psychological emotions of modern youth. Method Based on the modern young people as the main body, this paper applies the Moe culture as a new cultural element in creating the "Healing" electronic picture books, according to analysis the various elements of picture books, such as characters, plot, color, text, interaction .etc, to explore the application methods, reality, and theory meaning. Conclusion The "Healing" electronic picture books, which contain Moe culture, are more attractive and persuasive in the terms of expressing the connotation and curing the hearts. They can relieve the mood and pressure more effectively, which are capable of offering active and positive emotional care to modern young people, and further guide them to face the life with a healthy and optimistic attitude.

**Keywords:** Moe culture, The "Healing" electronic picture books, Modern young people, Emotional care.

## 1. INTRODUCTION

With the acceleration of the pace of life and the increase of work pressure, the hearts of modern young people in this era are depressed and fragile, and they are eager to be cared for and healed. "Healing system" was born in such a realistic background; The increasingly intelligent terminal products in the era of reading pictures have created the emergence and prevalence of electronic picture books; The emerging Moe culture effectively soothes the nervous emotions of the audience, and its cheerful and relaxed way attracts modern youth. MOE culture and "healing system" are similar in the expression of emotions. The combination of MOE culture and the creation of "healing system" electronic picture books has exploration value for the development of picture books and the change of psychological problems such as bad emotions of modern youth.

## 2. THE DEVELOPMENT AND FUNCTION OF MOE CULTURE

MOE culture originated from Japan's "cute culture" in the 1970s and "otaku culture" in the 1980s. In recent years, after the introduction of MOE culture into China through the Internet, it has shaped a new concept of sunshine, beauty and positivity, expressing a real expectation for a simple and pure life and the positive energy of pursuing an idealized life of ease and pleasure.[1]

ACADEMIC PUBLISHING HOUSE

## 2. THE DEVELOPMENT STATUS OF "HEALING" ELECTRONIC PICTURE BOOKS

All the tangible and intangible things that can soothe the soul, relieve emotions, and make people have emotional resonance can be called "healing system".[2] The high pressure and fast pace of life make modern young people more willing to read text books but less able to do so. The emergence of picture books meets the needs of fragmented reading and "light reading" in the era of picture reading. [3] The "Healing" picture books contain the expression of a variety of emotions, and any picture book that can make readers have positive emotions can be called the "healing" picture books. With the rapid development of science and technology and the infiltration of digital technology, electronic picture books have quickly attracted the attention and love of modern young people with their advantages of convenience and green environmental protection. The "Healing" electronic picture books came into being in such a realistic situation. At present, the application of Moe cultural elements in children's electronic picture books is more extensive in the market. Purely modern young people are the audience group, and the all-round "healing" electronic picture books integrating audio-visual and interactive activities have not yet been fully formed.

## 3. RESEARCH ON THE COMPONENTS OF THE "HEALING" ELECTRONIC PICTURE BOOKS

Characters, storylines, colors and characters are the basic elements of traditional paper picture books. On this basis, electronic picture books use the expression techniques of images to add dynamic, sound and interactive behaviors to provide diversified presentation methods for picture books. The study of the "healing" electronic picture books cannot be separated from the study of the elements that constitute electronic picture books, and the application of Moe culture in the "healing" electronic picture books must be based on these elements to achieve its maximum emotional care. [4]

### 3.1 MOE CHARACTERS - EXAGGERATED DESIGN OF LOCAL FEATURES

Most of the characters in "Healing" picture books are ordinary, close to readers, and easy to resonate. The application of Moe cultural elements to the character image is mainly to make exaggerated design of the character features, such as the normal proportion, big head and round eyes, which are different from the traditional concept, and these simple character designs

are more attractive, easy to make readers want to continue reading, trigger readers to ponder the connotation of the theme of the picture book, and enable the "healing" to play its role.

### **3.2 MOE PLOT - A STORYLINE THAT IS HIGHER THAN REALITY**

The storylines in "Healing" picture books are short, without complex content and too much preaching. The cute plots are mostly stories with temperature and higher than reality. For example, cats and fish in Dear Little Fish. In real life, cats eat fish, and fish are afraid of cats, but in picture books, life can get along well with each other. The beautiful story is somewhat unrealistic, which makes the reader feel happy after reading it, put down the immediate troubles and sadness, and still believe that there will be good things in this world.

### **3.3 MOE COLOR - THE MAIN COLOR OF WARM AND BRIGHT COLORS**

In the "Healing" picture books, colors are used in the creation according to the different themes that the picture book wants to express. Moe colors are generally warm and bright colors, and the types of colors will be more diverse. Such colors inspire the inherent characteristics of modern youth, which are lively, brilliant and sunny, and are more significant in electronic picture books with screen as the carrier. [5]

### **3.4 MOE WORDS - CHILDISH EXPRESSIONS**

The text content of "healing" picture books often involves the "big problems" of life such as birth and death, unemployment, love and illness, but the expression is not too strong, light emotions, and the expression way is firm, plain and upward. MOE culture is applied to it, often using a childlike tone to describe, and MOE's words full of innocence have reversed the heavy heart. Such language design enables modern young people to understand and gradually accept the emotional connotation that picture books want to convey, cope with various changes in life with a calm, rational state of mind and a positive attitude, and feel the healing power in reading.

### **3.5 MOE DYNAMIC - ABNORMAL RHYTHMIC PERFORMANCE**

Dynamic effects are designed based on characters and story lines, and slow or even "awkward" dynamic rhythms often produce cute effects. For example, when the reader clicks on the monster in the picture, it will blink its eyes and slowly put out its tongue, wiggling its butt and wagging its tail slowly. When the monster changes its agile and fierce image in the past, it interacts with the reader in a cute dynamic manner. These abnormal rhythm performance itself has a humorous attribute, which can make modern young people temporarily forget the troubles of life and achieve the healing effect of relieving themselves and reducing pressure.

### **3.6 MOE SOUND - LIGHT, CHIPPER MUSIC ACCOMPANIMENT**

Music itself is filled with a magical healing power. Light, chipper music often brings a cute feeling to the listener. For example, in the "You are the fattest" chapter of "Just like You don't like me and can't do me", "fat" and "weight loss" are problems that many modern youth often face, but this story uses a relaxed and lively music as the background accompaniment when interpreting the problems encountered because of "fat". The soundtrack evokes the emotional elements inherent in the picture book: "So what about fat? As long as it is healthy, fat also has fat beauty!". Thus expressing the idea that everyone should know how to take care of themselves, not be blinded by the deformed aesthetic in society, and have a happy and simple heart.

### **3.7 MOE INTERACTION - INTERACTIVE EXPERIENCE BASED ON SMALL GAMES**

The interactive behavior full of "healing" must be designed according to the inner needs of the audience, and the Moe cultural elements are applied to the interactive design of electronic picture books through the combination of games. For example, the electronic coloring book "Secret Garden", on the basis of paper, gives readers more rights to participate in the interaction of galleries, exhibitions, etc. Readers can share their works online, and can also carry out online exhibitions and join the popularity list. Such a design can not only bring readers a sense of accomplishment and pride, but also carry good memories in the process of interaction, so as to obtain inner healing. [6-7]

## **5. CONCLUSION**

The application of Moe cultural elements has injected fresh blood into "healing" electronic picture books, and has played an extremely important role in soothing and healing the fragile and lonely hearts of modern youth. In the creation of electronic picture books and the composition of the story, through the integration of Moe cultural elements, the expression means of the picture book is enriched, and the emotion and vividness of the picture book are greatly increased, which is a new idea for the creation of "healing" electronic picture books.

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# The Dilemma of Collaborative Governance of Student Management in Colleges and Universities and The New Path of High-Quality Development of Student Management

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**Abstract:** The modernization of university governance urgently needs the effective development of collaborative governance of college student management, but there are three kinds of dilemmas: main dilemma, organizational dilemma and cultural dilemma. Under the influence of factors, the effective collaborative governance of college student management is hindered. Based on the new era, the association should be promoted through the concept of high-quality development of student management. The specific paths of the real implementation of governance include: adhering to the concept of high-quality management and promoting collaborative innovation in student management; Promote the systematization and construction of work carriers. Institutional mechanisms for collaborative education; Build a professional student management team and effectively improve collaborative governance capabilities.

**Key words:** University Management; High quality management; student management; Collaborative governance.

At present, China's higher education has entered the stage of popularization and development, and the "post-00s" have become the main body of college students, facing many challenges such as cultural diversity, value conflicts and complex information brought about by globalization, informatization and networking, and high-quality student management has increasingly become an important content of the modernization of university governance. In this context, college student management entities should take the initiative to respond, coordinate governance, and strive to build a new pattern of high-quality development of college student management in the new era.

## 1. COLLABORATIVE GOVERNANCE: HIGH-QUALITY MANAGEMENT OF COLLEGE STUDENTS

As an emerging interdisciplinary theory, the development of new demand collaborative governance theory integrates synergy in natural science and governance theory in social science[1]. In his research work on lasers, Haken proposed that the process of

interaction and organic integration of various elements or subsystems within the system is "synergy" [2]. Governance refers to the ongoing process of reconciling conflicting or different interests and taking joint action]. As a collection of two theories, the aggregator of collaborative governance theory, Harvard scholar John Donahue, believes that government. The department collaborates with other entities to jointly exercise decision-making power to achieve public goals, and although the establishment of public objectives is influenced by each entity, the government still has decision-making power [H]. From the perspective of governance subject, governance goal and governance process, the internal logic of college student management and collaborative governance theory is consistent, and collaborative governance theory provides new ideas for optimizing student management. [3-4]

The three characteristics of collaborative governance theory make it have good applicability to college student management. First of all, it emphasizes the diversification, interaction and collaboration of governance subjects, which is in line with the actual management of student affairs. The ultimate goal pursued by collaborative governance theory is to achieve the optimal state of the organization, that is, to achieve "good governance". Governance entities reduce or resolve contradictions and conflicts through mutual consultation. The realization of this process does not rely on mutual games, confrontation and compromise, but on the consistent pursuit of common goals, in order to maximize the common interests of the organization, actively participate in governance, and achieve balance in communication and coordination.

## 2. THE COLLABORATIVE DILEMMA: THREE FACTORS HINDERING THE COLLABORATIVE GOVERNANCE OF COLLEGE STUDENT MANAGEMENT

### 2.1 THE MAIN DILEMMA IN THE COLLABORATIVE GOVERNANCE OF COLLEGE STUDENT MANAGEMENT

The negative absence of student subjects in collaborative governance. The "silent majority" and the "loss of voice" of student participation in

collaborative governance have become the "norm" for students' participation in various school affairs. In terms of classroom learning, the most important activity for students to participate in, silent classrooms have become commonplace, and teacher-student interaction has become a dilemma. In addition to classroom silence, students' silence is also manifested in social silence, individual silence, and group silence. If the silence of college students is not effectively alleviated, it will inevitably lead to the lack of their sense of social responsibility, the disappearance of their active awareness, and the weakening of moral feelings. The proposal of the idea of "breaking the five only" in higher education has effectively changed the talent training standards and performance evaluation system of colleges and universities.[5]

The knowledge ability of student management subjects in collaborative governance is lacking. The management of students in colleges and universities adheres to the model of overall leadership of the party committee of the school, overall planning of the student work office, and specific implementation of second-level colleges, with full-time counselors as the main body of work, classroom teachers concurrently serving as class teachers as auxiliaries, and student self-government organizations as supplements. However, there is still a big gap between the college student management team and the above positioning, which is reflected in two aspects. First, many college full-time counselors have not been systematically trained and lack theoretical knowledge and professional skills in student management. Second, student administrators are busy with daily affairs, and have very little time for education guidance and service care for students, and they do not have time to take care of their own ability improvement, business refinement, theoretical expansion, and scientific research and innovation, thus falling into "skill panic".

## **2.2 THE ORGANIZATIONAL DILEMMA OF COLLABORATIVE GOVERNANCE OF COLLEGE STUDENT MANAGEMENT**

The "pyramid" and "line splitting" pattern separates the network of collaborative governance of student management. The education management organization of college students is a "pyramid" structure, and the administrative trend is obvious. The "management chain" of college students includes the deputy secretary of the school party committee, the student office, the school youth league committee, the career guidance center, the deputy secretary of the college party committee, the student work office, the college youth league committee and many other management bodies in charge of student work, forming a huge set of student management system, each in its own place and performing its own duties. Administrative management emphasizes efficiency and obedience, ignores humanistic care, hinders managers at all levels from self-management, self-play and self-innovation, and the thinking of "seeking

common ground" and "maintaining stability" is far more than the thinking of "seeking differences" and "innovation". There is also a phenomenon of "line separation" in the management of college students, and it is difficult to produce synergistic effects between the lines. For example, the line of learning and work, the line of party building, the line of teaching, etc. is conducive to the implementation of responsibilities and deployment work, but it is also easy to cause communication barriers and information barriers.

The operation of "baton" and "narrow management" hinders the effective implementation of collaborative governance of student management. The college student management system also has the characteristics of "pressure system", under the top-down pressure transmission mechanism, the subordinates are often accustomed to conservative thinking, passive thinking, and are accustomed to following the "baton" of the superior and acting passively. Under the dual role of the "baton" and "narrow management" of superiors, the "collaborative" governance of students has actually been emptied, and the real student management work is often presented as transactional, normalized and institutionalized, and the incentive and constraint mechanism is difficult to standardize, long-term and standardize.

## **3. REBUILDING COLLABORATION: A CONCRETE PATH OF COLLABORATIVE GOVERNANCE OF STUDENT MANAGEMENT FROM THE PERSPECTIVE OF HIGH-QUALITY MANAGEMENT**

The concept of the unity of knowledge and action determines the behavior norms, value appeals, and practical directions of students' work. Only by innovating the concept of student work can we better promote the long-term development of students and the sustainable development of universities' [6].

### **3.1 STRENGTHEN THE CONCEPT OF CENTER, SERVICE AND HIGH-QUALITY MANAGEMENT**

For the entire student work, it is necessary to always focus on the center of "cultivating people with virtue" and serve the overall situation of improving the quality of talent training. Advance the goal of student development. For individuals engaged in student work, only by consciously integrating student work into the center, serving the overall situation and promoting development to plan, and pay attention to personal subjective initiative, can student work be effective.

### **3.2 STRENGTHEN THE HIGH-QUALITY GOAL CONCEPT OF "WHOLE-PERSON DEVELOPMENT"**

The concept of whole-person development is also the inherent demand of quality education, the function of education is not only to impart knowledge, but more importantly, to focus on the development of students throughout their lives, so that they can obtain

comprehensive quality improvement. Similarly, the work of college students under the concept of "whole-person development" is not only to help students graduate successfully, but more importantly, to help students stimulate their potential, cultivate sound personalities, and become "whole people" with correct ideals and beliefs, scientific values, good moral norms, extensive knowledge literacy, comprehensive improvement of ability, full development of personality and mental health.

### 3.3 STRENGTHEN THE HIGH-QUALITY MAIN CONCEPT OF "PEOPLE-ORIENTED"

The concept of "people-oriented" runs through the work of students. The work of college students should respect the main position of students and give play to the subjective role of students. Only by establishing the concept of students as "independent subjects" in the governance of university students, so that students can truly become effective participants in collaborative governance, can high-quality collaborative governance be achieved. In addition, it is necessary to respect the humanistic demands of student workers and give play to their subjectivity in educating people. In the process of work, we must not only adhere to respecting people, understanding people, caring for people, supporting people, helping people, paying attention to humanistic care and psychological counseling, but also respecting the personality development of individuals, and paying attention to the unity of personality and commonality [8].

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# Full Time and Space Teaching Based on Virtual Scenarios

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**Abstract:** In order to implement the spirit of the document, effectively promote the deep integration of virtual reality technology and vocational education teaching, empower the high-quality development of vocational education, explore replicable and promotable models of virtual simulation bases, the virtual simulation training teaching team innovatively implements a virtual simulation practice teaching system based on the "VR+" teaching mode, constructs a full time and space teaching mode based on the "VR+" teaching mode, and solves the pain points of equipment manufacturing professional teaching Difficulties, improving the quality of talent cultivation. **Keywords:** Virtual reality; Virtual scenes; All time and space teaching.

## 1. PROJECT IMPLEMENTATION BACKGROUND

With the rapid development of information technology and the deepening of the integration of the two, the concept, content, working methods, and methods of intelligent manufacturing have undergone significant changes, bringing unprecedented challenges to practical teaching. The base is built with intelligent manufacturing technology as the core, and new energy vehicle manufacturing, high-end equipment manufacturing, high-end medical equipment, electronic industry equipment, intelligent complete sets of equipment, industrial internet, and other multi-polar virtual simulation training clusters, Following the concept of "following the laws of practical training and teaching, emphasizing the cross integration of multiple majors and platforms, demonstrating and leading the reform of virtual simulation training mode, and serving the transformation and upgrading of intelligent manufacturing industry", we will deepen the "three education" reform and cultivate composite high-quality technical and skilled talents with the potential of on-site engineers who can adapt to modern, automated, and intelligent production. [1]

Eliminate cross temporal and all-round difficulties, focus on creating a batch of VR demonstration teaching resources, and guide the teacher team to actively participate in the development and application of VR experimental resources from a point to an area perspective.

## 2. MAIN METHODS OF THE PROJECT

Explore a virtual simulation practical teaching system based on the "VR+" teaching mode, solve the pain points and difficulties in equipment manufacturing

professional teaching, and reform the talent cultivation mode. Solve the "three highs and three difficulties" in the process of education and teaching, deepen the "three education reforms", optimize talent training models, and improve the social service level of the base. Fully leverage the functions of virtual simulation training bases, provide virtual simulation resources, and highlight the application of digital technology. [2]Relying on virtual simulation training centers, social service and training centers, school enterprise collaborative innovation research and development centers, and the "1 workshop+3 centers" intelligent training scenarios of Zigong Workshop, we provide intelligent support through multiple channels and empower social services.

## 2.1 DEVELOP VIRTUAL SIMULATION TRAINING COURSES AND CONSTRUCT A FULLY SPATIOTEMPORAL INTERACTIVE HYBRID TEACHING MODE

Build a virtual simulation teaching resource package for teaching teams that intersect majors and enhance professional skills; According to the needs of talent cultivation and the requirements of training laws, the training content is designed into four levels: professional foundation module, professional skills module, comprehensive practice module, and engineering innovation practice. Starting from the practice of professional basic abilities, the focus is on professional skills training and comprehensive project practice, combining theory with practice, integrating teaching and practice, and cultivating students' innovative spirit and practical ability. [3]

Before the course starts, the course implementation team will mainly establish a QQ group or WeChat group, with teacher groups, class groups, and mentor groups established separately. The teacher group is a group where all teachers discuss various problems encountered in the use of the VR cloud teaching platform, promptly release their course usage information, and mutually supervise and improve each other; Class group is a group where teachers release notifications related to learning on the VR cloud teaching platform and students discuss the methods and problems of using cloud classrooms. Teachers promptly release background data on students' use of the VR cloud teaching platform, and urge students to complete pre class, in class, and post class learning tasks in a timely manner. A guide group is a group where teaching teachers invite counselors to join, and teachers promptly announce students' learning

progress and grades using the VR cloud teaching platform. Teachers and guides work together to promote the implementation of online and offline teaching. Establish a VR cloud teaching platform supervision team and cloud platform backend staff to jointly monitor the teaching and learning situation of teachers and students online and offline, regularly collect feedback information from teachers and students, and make timely visits to improve teaching quality.

The blended online and offline interactive teaching mode based on full time and space mainly includes three stages: pre class preview, in class learning, and post class review.

Before class: Teachers synchronously release preview task books in the class group, guide group, and cloud classroom, proposing thinking questions, allowing students to preview relevant VR teaching resources online on the cloud classroom platform with questions and tasks. After preview, teachers present their own problems and opinions in the cloud classroom, and organize the teaching content in class based on students' feedback information.

In class: offline teaching is the main method, with problem-oriented teaching, case study, demonstration or discussion methods as the main teaching methods, and VR cloud classroom mobile end as the auxiliary online check-in, questioning, group discussion, testing, etc., to solve the difficulties and key points encountered by students before class one by one.

After class: Teachers should synchronously publish homework, test questions, practical tasks, etc. in the class group, guide group, and VR cloud classroom. Teachers should promptly review, answer, and grade students' discussions, answered questions, tests, and homework in the VR cloud classroom computer after class, and organize and optimize the next teaching task based on the classroom evaluation submitted by students in the cloud classroom. Through the joint efforts of students, teachers, guides, supervisors, and VR cloud platform backend staff, we truly achieve a blended teaching mode of online and offline interaction in all time and space, gradually improving the learning initiative and enthusiasm of vocational college students.

## **2.2 IMPROVE THE THREE-DIMENSIONAL COMPREHENSIVE EVALUATION AND TRAINING PRICE SYSTEM THAT COMBINES VIRTUAL AND REAL SITUATIONS**

Taking advantage of the demonstration and driving role of leading enterprises in the virtual simulation industry, relying on the advantageous resources of the equipment manufacturing virtual simulation experimental platform of industry colleges and universities, and based on the actual situation of our university's intelligent manufacturing major, we have explored a highly operational way of jointly building and sharing virtual simulation experimental teaching resources between colleges and universities, explored

diversified training evaluation between schools, and improved the three-dimensional comprehensive evaluation and training price system that combines virtual and real. Our school, together with Shandong Jianzhu University and other colleges and universities, has jointly built an educational informatization application practice community of the Ministry of Education, and formed an inter provincial co construction and sharing system of virtual simulation training teaching resources, which takes the trial production of course products as the terminal project for co construction and sharing for in class training and the second classroom.

The use of VR cloud classroom platform in the teaching implementation process eliminates the drawbacks of traditional practical teaching assessment methods. The online and offline learning process, practical operations, and final tests based on VR cloud classroom are set to different assessment ratios for comprehensive evaluation of students, highlighting process assessment and establishing a three-dimensional comprehensive evaluation system that combines virtual and real aspects. Thus, it is more realistic and effective to determine the degree of students' mastery of knowledge and skills in a certain course. Highlight the advantages of cloud service platforms, apply simulation software virtualization and remote sharing key technologies, and build an intelligent manufacturing group with "professional and complete, focused, comprehensive coverage, and high-quality simulation teaching resource packages, low configuration, low bandwidth, no plugins, and smooth simulation application experiences, as well as unlimited time and space 'all time and space' mobile teaching functions" cloud service platforms. To serve the "teaching" and "learning" activities of teachers and students, and create a "university without walls". Using the Internet of Things, cloud computing, artificial intelligence (AI) and other new generation information technologies, through face recognition, intelligent transformation of equipment, remote networking and control, remote monitoring, practical teaching guidance, Big data statistical analysis and other means, the four contents of "teaching, training and examination" are effectively connected to achieve data sharing and online management between the cloud service platform management system and practical equipment. The cloud platform management system uses intelligent means to promote the deep integration of information technology and intelligent technology into theoretical teaching and practical training teaching, acquire, monitor and analyze theoretical teaching data and practical training teaching data from all dimensions, and provide all-round teaching management data push and Big data analysis for schools. Always adhere to demand orientation, serve regional economic and social development, adapt to the needs of people's employment and entrepreneurship, vigorously

promote lifelong vocational skills training, actively explore the new model of "Internet plus+vocational skills training", work with industry and enterprises to build an intelligent manufacturing "cloud training" Open platform, and promote the application of cloud computing, Big data, mobile intelligent terminals and other information network technologies in the field of intelligent manufacturing engineering vocational skills training. The "cloud training" Open platform system is a socialized talent training service platform in the intelligent manufacturing field that integrates online courses, cloud training, learning assessment, employment guidance, skill training and other functions. The "cloud training" Open platform is deeply integrated with the government, schools, banks and enterprises to jointly build a win-win bridge, establish a multi-channel and multi-level cooperation and socialization platform, realize the gathering of socialized and market-oriented intelligent manufacturing service resources, and constantly improve service functions. The platform system implements complete online training resources and a comprehensive quality control system for online vocational training. The platform's operation reflects diversified terminals (PC web, mobile, etc.), diversified training methods, and intelligent online training methods, providing a way for practitioners to cultivate and improve their general professional qualities and job search abilities. The platform system functions focus on intelligent manufacturing engineering technology and related industry personnel employment skills training, entrepreneurship training, pre job training, enterprise employee skill enhancement training, and specialized vocational ability training. Based on public theoretical courses and skill simulation training courses, it involves entrepreneurship awareness, entrepreneurship ability

training, skill identification, independent evaluation, specialized training, and pre job training records. The learning process can be queried and traced, and the training results can be evaluated.

### **2.3 CREATE A BRAND OF INTERACTIVE HYBRID TEACHING MODE FOR ONLINE AND OFFLINE TEACHING IN ALL TIME AND SPACE**

Based on VR cloud classroom platform adoption The full time and space online and offline interactive mixed teaching mode has been implemented for a semester. A survey found that the students participating in the training have significantly higher grades than previous students, with strong hands-on ability, good thinking and problem-solving abilities. As an information-based learning platform, VR cloud classroom has the characteristics of diverse resources, real-time interaction, and comprehensive evaluation system. It fully utilizes the VR cloud teaching platform and adopts a full time and space online and offline interactive mixed teaching mode The teaching mode is student-centered and teacher led, with online and offline interaction and a dual approach. The quality of professional talent cultivation has achieved significant results, gradually forming a teaching brand.

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# Analysis on the Development and Shallenge of Career Planning Education for College Students

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**Abstract:** At present, career planning education in China is gradually showing a vigorous development trend, focusing on three aspects: the promotion of training and teaching, the optimization of supporting environment and the growth of academic research. At the same time, it also faces the challenges of resource security, academic research and educational concept. Under the background of the new era, educational institutions should place career planning in the social system, determine the goals and contents of career education by clarifying the needs of social and economic development, and then put forward new career planning development strategies and paths in reviewing the development process of career planning, so as to put the career planning of Chinese college students on the right track. Become the cornerstone of promoting the development of talent training system. Combining with the rise of career education, this paper analyzes the development process of career planning in our country, and puts forward the challenges faced by career planning in a new era.

**Keywords:** College students; Career planning; Educational development.

## 1. INTRODUCTION

Career planning education for college students, also known as career planning, mainly refers to a guidance system that guides young students to clarify the best career development goals and carry out practical and effective career planning activities on the premise of summarizing, analyzing and evaluating their careers. From the perspective of education system, the root purpose of career planning education is to enable young students to grasp the context of professional growth in the process of employment, determine the pattern of life development, improve their social adaptability and career planning ability, and then in the new economic form, more fully and comprehensively play their own ability, to provide strength for China's socialist modernization. The "rise" of vocational planning education and the exploration and development process can help our educational institutions to understand the theoretical connotation, teaching purposes and objectives of vocational planning education. [1] We can make better use of the modern educational concepts, reform and innovate the traditional vocational planning

activities, and analyze the era challenges of vocational planning education. It is an effective barrier to rapidly promote the development of career planning education and improve the quality of career planning education, and it is also the main development content and research direction of China's career planning education, so as to clarify problems from challenges and find the right direction from opportunities, so as to make career planning education more in line with the development needs of the new era and effectively promote the all-round development of young students in China. [2]

## 2. THE ORIGIN OF CAREER PLANNING EDUCATION

### 2.1 EMBRYONIC STAGE

The current vocational planning education in China mainly originated from the guiding education in the late 20th century. At that time, the vocational education in western countries had a great influence on the guiding education in China, and made the vocational guiding education in our country develop significantly in scale and quantity. In 1916, Zhou Zhichun, a professor at Tsinghua University in China, applied the American psychometric method to the career selection of young students and built a curriculum system based on "career". By 1920, Chinese vocational education association gradually set up guiding departments, and explored the practice and theoretical connotation of vocational education in our country on the basis of drawing from the planning education experience and theory of European and American countries, to promote the rapid development of vocational education and the job market in our country. Therefore, the embryonic form of vocational planning education in China is the early vocational guidance or employment guidance education, but by 1930, the practice and theoretical research of vocational guidance in China stopped due to social and historical factors, resulting in the rapid and smooth growth and development of vocational education. [3]

### 2.2 RISE AGAIN

After the founding of New China, the issue of vocational planning education in China has gradually attracted the attention and attention of the education field. In terms of constitution, career planning education is basically replaced by individual obedience, unified distribution and other

mechanisms, and most students do not have the consciousness and concept of career choice, let alone the consciousness of employment planning. By the beginning of 1980, the economic system and structure of our country have undergone profound changes, and the employment guidance has risen again, and the Career Guidance published by the Vocational Education Association has become the symbol of The Times and the representative of the career guidance. At this stage, Chinese educational experts contributed a huge volume of theoretical collections by participating in the discussion and research activities of employment counseling. At the end of 1988, the subject of "Employment Guidance Practice and research" declared by Wen Youxin gradually became the first key project of employment guidance research in China. With the continuous expansion of the scope of business, the meaning and extension of vocational planning education in our country have also been effectively expanded, which lays a solid foundation for the long-term development of vocational planning education in our future.

### **2.3 RISE UP**

In the early 21st century, under the background of the development of market economy, modern education has been changing from the traditional elite education to the mass education. The career guidance mechanism for young students also shows diversified development characteristics, which makes the mechanism of government management, school control, market guidance and two-way selection be implemented, and makes career planning education become a necessary prerequisite and important course for the development of the new era. At the end of 2010, Beijing University Student Association launched a career planning activity, and in the process of carrying out the activity to the students' warm welcome, reflecting the overall rise of China's career planning education. However, different from traditional vocational guidance, modern vocational planning education pays more attention to the needs of economic and social development, and pays more attention to students' subjective consciousness. From the stage of vocational education, it clarifies the goals and tasks of vocational education, making vocational education gradually become the "vane" of young students' professional growth and career development.

## **3. THE MODERN DEVELOPMENT OF CAREER PLANNING EDUCATION**

### **3.1 PLANNING EDUCATION ENVIRONMENT IMPROVEMENT**

At the current stage, planning education activities are gradually showing the characteristics of open and environmental development, with a relatively diversified supporting environment. The external environment can provide solid support and guarantee for our country's modern planning education. The internal environment can lay a solid humanistic foundation and policy foundation. The first is the

international advanced employment guidance concept and education model. Generally speaking, career planning education originates from the West and has developed over a hundred years. It has a relatively complete curriculum system in scientific research, textbook construction, curriculum setting, teacher training and other aspects, and has developed into a complete talent training mechanism in the new era. Secondly, the planning activities set up by enterprises and universities in China are increasing day by day, which can create a strong development atmosphere for modern planning education.

### **3.2 THE THEORETICAL RESEARCH OF CAREER PLANNING EDUCATION**

First of all, career planning education theory research works and textbooks. In the process of theoretical research on career planning education, Chinese scholars have conducted detailed research on vocational education. For example, Chen Shuangping's Career Planning explores the basic connotation, procedures and methods of modern career planning from the perspective of enterprise management. Experiential Learning, written by Chen Tianzhong, gives a comprehensive and systematic description of students' career from four aspects: lifelong learning, career, quality of life and dignity of life. These works have high academic value in the field of elaborating students' career planning, but the research on the mechanism and mechanism of planning is still blank. The second is the academic conference. In 2008, the "International Forum on Career Planning" was held in Shanghai. The successful holding of the conference provided a basis for the development and improvement of career planning, so that China's career consulting industry and career planning education gradually entered a new development field and realized the goal of market-oriented operation. In 2010, China's vocational guidance center and university information consulting institutions held a "career planning academic seminar", and some experts put forward many theories in the exploration of the implementation channels and development models of the planning system, which can effectively improve the theoretical level and education quality of China's vocational planning education.

### **3.3 CONTINUOUS PROMOTION OF CAREER PLANNING EDUCATION**

On the basis of the continuous improvement of the internal and external environment of vocational planning education in China, the vocational education system has made remarkable development and progress, and promoted the development of educational research in practice. Firstly, the vocational planning course has been gradually incorporated into the personnel training system of most colleges and universities in our country. In 2007, some colleges and universities in China presented career guidance to students in the form of elective courses, and career planning education has not fully entered the education



system. Secondly, the scope of vocational planning education in China is constantly expanding. At present, the employment problem faced by college students in China has gradually received extensive attention from various fields of society. In addition to the efforts of universities, governments, party and government organs, the institutions and organizations of career planning research, consultation and training have also been developing rapidly. Relevant colleges and universities have also realized the goal of resource sharing and system co-construction in the process of working with social education organizations and planning institutions, formed a strong social education force, and promoted the long-term development of vocational planning education in China. In 2010, China's education department set up a master's program in career guidance and career planning in a number of institutions of higher learning in Shanghai, aiming to provide conditions for the healthy development of planning education in China from the aspects of teacher training and teacher construction, so that teachers can continuously improve their professional and information level in the process, Promoting the healthy development of vocational planning education in our country. In addition, more and more college career coaches have obtained the career coach and planner certification, which can make the current career planning education more systematic and modern.

#### **4. CHALLENGES FACED BY CAREER PLANNING EDUCATION**

##### **4.1 BACKWARD CONCEPT**

The role of career planning education on educatees, universities and society is beyond doubt. However, under the influence of the career planning atmosphere and the overall social environment, there are still obvious problems for college administrators and teachers to identify the concept of career planning and explore the practice. First of all, the social foundation of vocational planning education in our country is relatively weak. The attention of society as a whole is generally low. At the social level, the acceptance and understanding of the public in our country is limited, and career planning still maintains the habit of suggestions from relatives and friends. Secondly, the current planning education is utilitarian and instrumental. Faced with the problem of students' career choice, schools have set up career planning courses to improve the employment rate of fresh graduates. Although in the existing employment guidance system, college teachers pay attention to the professional skills of students, but this is only a part of career planning education, lack of attention to the job development and professional growth of the educatees, resulting in a disconnect between theory and practice, employment guidance work is not targeted. Finally, Chinese young students have a negative understanding of the role and connotation of

planning education, and generally lack the awareness and ability of employment planning, so they can not improve the concept of career planning education, which makes it difficult for curriculum education to play a real role.

##### **4.2 THE RESEARCH LAGS BEHIND**

The current theories of career planning in China, and although significant research results have been obtained, there are many problems in the theoretical research system, which are reflected in the following aspects: First, the theoretical research level of career planning education is relatively shallow, and there is a lack of in-depth analysis of the educational methods, contents and practices of career planning education. Secondly, the research method is relatively simple. Through the collation and analysis of the current academic literature, it can be found that most of the theoretical research in China belongs to inductive research, and the main body of the research is generally educational methods, development status and foreign experience. However, there are relatively few theoretical studies focusing on the localization of career planning education, and few studies are conducted in a quantitative way. Finally, educational reform research lacks corresponding operability. At present, there are more and more research on vocational planning in China, but this kind of theoretical research has not formed a systematic whole, let alone a localized teaching reform model. In this regard, the relevant government departments in China should, on the basis of guiding the theoretical research direction, help experts and scholars to clarify the value of indigenous career planning research in modern education, and enhance the intensity of localization research by means of policy guidance or system guidance.

##### **4.3 SECURE RESOURCES**

As China's vocational planning education is still in its initial stage, the influence of traditional education concepts is obvious, and the teaching resources that can be utilized are relatively short, which restricts the work of vocational planning education in China and makes it difficult to construct a corresponding resource guarantee mechanism in combination with the development needs of modern economy and society. China's relevant government departments should start from the following three levels to build a scientific and reasonable resource security system. First of all, relevant education departments and organizations should pay more attention to vocational planning education and increase their capital investment in textbook construction, facility allocation and theoretical innovation, so as to provide a solid material guarantee for vocational planning education in colleges and universities. Secondly, relevant government departments should jointly carry out corresponding academic seminars with local colleges and universities to promote the integration of career planning education and modern education

system,enhance the attention of colleges and universities to career planning education,so that colleges and universities can play their due roles in functional development,institutional establishment,team building and other levels.Finally,relevant government departments should cooperate with "social career planning" institutions and individuals to introduce it into the college planning education system,make up for the shortage of teachers in college education,and promote the rapid development of the career planning education system.In addition,colleges and universities can also carry out corresponding teacher training activities to guide teachers to understand the social value and times value of career planning education, and improve teachers' attention to college students' career planning and their ability to carry out planning education activities.

### **5. CONCLUSION**

Career planning education is an important part of China's education system, which has irreplaceable practical significance in promoting social development,talent training and students' career development.However,due to the weak theoretical foundation of vocational planning education,the lack of practical research and localization research,there are many challenges in the level of resource security,educational concepts and theoretical

research.In this regard, an in-depth analysis of the rise and development process of vocational education and a clear definition of the challenges faced by contemporary vocational planning education can help higher education institutions clarify the development direction and build a modern,information-based and intelligent vocational planning education mechanism that meets the needs of students and social development.To alleviate the difficulties of employment and job selection of college students in our country to provide prerequisites,and then promote the rapid development of higher education institutions in our country.

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# An Analysis of the Necessity and Research Status of Integrating Local Industrial Culture Into Ideological and Political Teaching

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**Abstract:** In order to realize the mission of inheriting and innovating industrial culture, higher vocational colleges should fully tap the essence of local industrial culture, strengthen the connotation construction with the characteristics of industrial culture, take the initiative to find the fitting point of local industrial culture and ideological and political teaching, bring industrial culture into the ideological and political class, and train workers and builders with deep industrial culture literacy .

**Keywords:** Universities; Industrial culture; Ideological and political course

## 1. THE NECESSITY OF INTEGRATING LOCAL INDUSTRIAL CULTURE INTO IDEOLOGICAL AND POLITICAL TEACHING

### 1.1 CULTIVATE STUDENTE UNDERSTANDING AND IDENTIFICATION OF ZIBO INDUSTRIAL CULTURE AND ENHANCE STUDENTS SELF-CONFIDENCE IN INDUSTRIAL CULTURE

Industrial cultural confidence is an important part of cultural confidence. By playing the role of the main channel and the main position of ideological and political theory courses in colleges and universities, teachers can use Marxist theory and socialist advanced culture including socialist industrial culture to arm their minds in class, so as to deepen vocational students' sense of identity and industrial cultural accomplishment of local industrial culture spirit and realize the construction of industrial culture confidence[1].

### 1.2 STRENGTHEN THE ACADEMIC RATIONALITY OF IDEOLOGICAL AND

## POLITICAL TEACHING AND IMPROVE THE EFFECTIVENESS OF IDEOLOGICAL AND POLITICAL TEACHING

Improving pertinence and effectiveness has always been one of the core tasks of ideological and political theory teaching reform in higher vocational colleges. By integrating the spirit of industrial culture with distinctive Chinese characteristics and times, such as self-reliance, hard work, selfless dedication, patriotism and dedication, into the relevant theoretical knowledge, students can not only stimulate their thirst for knowledge and curiosity, but also improve their cultural self-confidence and consciousness, and better practice the core values of socialism[2].

### 1.3 GIVE FULL PLAY TO THE EFFECT OF IDEOLOGICAL AND POLITICAL EDUCATION TO PROMOTE MORALITY AND CULTIVATE PEOPLE, AND HELP THE INHERITANCE AND PROTECTION OF LOCAL INDUSTRIAL CULTURE

The goal of higher vocational colleges is to cultivate high-quality technical and technical talents for the society. At the same time, its school-running characteristics determine its close connection with industries and enterprises, integrate industrial culture into the construction of campus culture, promote the docking of industrial culture and higher vocational education, and make full use of the intellectual and human advantages of colleges and universities to build industrial culture research institutions. To realize the organic combination of inheritance and innovation of industrial culture and the function of education[3].

## 2. ANALYSIS OF THE CURRENT SITUATION OF INTEGRATING LOCAL INDUSTRIAL

## **CULTURE INTO IDEOLOGICAL AND POLITICAL TEACHING**

Industrial culture is an important part of campus culture in higher vocational colleges. The Ministry of Education put forward, "industrial culture into vocational schools, so that industrial culture into education, industrial culture into the campus, corporate culture into the classroom." Based on this, many experts and scholars carry out research from different angles, and effectively connect with local industrial culture with the teaching platform of ideological and political courses, and give full play to the important role of ideological and political courses in ideological guidance and action demonstration.

### **2.1 DOMESTIC RESEARCH STATUS**

#### **2.1.1 RESEARCH ON INDUSTRIAL CULTURAL CONNOTATION**

Industrial culture has a rich connotation, Zhang Xinhao from the perspective of spiritual culture, dare to pioneer the pioneering spirit, attach importance to science and technology innovation, open to absorb the enterprising spirit, down-to-earth pragmatic spirit, the spirit of sharing the country's worries, the spirit of advancing bravely is the main connotation of industrial culture. Yu Zuguang mainly explained the connotation of industrial culture from the perspective of behavior and institutional culture, and believed that industrial culture should include the consciousness and behavioral norms of qualified citizens, the consciousness and behavioral norms of qualified workers, the consciousness and behavioral norms of qualified enterprises and legal persons, the awareness and behavioral norms of environment and ecology, and the understanding and behavioral norms of multi-culture.

#### **2.1.2 RESEARCH ON THE SIGNIFICANCE OF STRENGTHENING INDUSTRIAL CULTURE CONSTRUCTION IN IDEOLOGICAL AND POLITICAL COURSES**

Huang Haifeng pointed out that the organic integration of local industrial culture and higher vocational ideological and political courses is an important way to improve the pertinence and effectiveness of teaching, and arming the minds of higher vocational

college students with industrial culture is a means to improve their ideological and political quality. Wang Yu believes that strengthening the construction of industrial culture is of great significance for strengthening and improving the ideological and political work of colleges and universities under the new situation, improving the ideological and moral level and scientific and cultural quality of teachers and students, enhancing the cohesion and centripetal force of teachers and students, improving the quality of personnel training and school-running benefits, and realizing the fundamental task of cultivating morality and cultivating people. Zhao Xuetong pointed out that higher vocational colleges should realize the mission of inheriting and innovating industrial culture, and provide spiritual impetus for the construction of new industrialization by developing industrial cultural resources and innovating industrial culture.

#### **2.1.3 RESEARCH ON THE STATUS QUO AND CAUSES OF INDUSTRIAL LITERACY OF HIGHER VOCATIONAL COLLEGE STUDENTS**

Through random interviews and questionnaires, Shen Suying found that some vocational students are self-centered and lack industrial cultural literacy, and 70% of the students are basically ignorant of the connotation of industrial cultural literacy. The reason lies in the fact that vocational colleges do not pay enough attention to the transmission of industrial culture in the concept of education, and the lack of teachers' operational ability, practical teaching ability and engineering application ability. And the teaching method is single, the teaching method is backward. Feng Zhenping pointed out that the extension of Confucian ethics led to the neglect of the cultivation of industrial cultural accomplishment, which made students reject and even panic about industry and its culture. Cheng Tao believes that at present, most higher vocational colleges do not dig deeply and systematically the connotation of industrial culture, and the construction of industrial culture with system, spirit and behavior as the carrier is generally less, which affects students' comprehensive understanding of industrial culture to a certain extent[4].

#### **2.1.4 RESEARCH ON THE PATH OF INTEGRATING INDUSTRIAL CULTURE INTO IDEOLOGICAL AND POLITICAL COURSES IN HIGHER VOCATIONAL COLLEGES**

Feng Zhenping believes that industrial culture can be integrated into ideological and political courses through theory, practice and virtual space, that is, integrating the recent industrial history into ideological and political classroom teaching, enhancing the self-confidence of industrial culture in practical teaching and promoting advanced industrial culture in ideological and political course online teaching. Huang Haifeng suggested that ideological and political teachers take the initiative to contact and docking with enterprises and other units, fully integrate social resources, enter factories and enterprises, personally experience industrial culture, and increase more perceptual understanding.

To sum up, we can find that there are a lot of research results on industrial culture in the current academic circle, and the research scope is relatively comprehensive, which has laid a solid theoretical foundation for the study of industrial culture into the ideological and political courses of colleges and universities. However, there are few researches on the integration of industrial culture into ideological and political courses, and the pertinence is not enough, even fewer take the local industrial culture of a specific region as the research object. Therefore, it is necessary to investigate and analyze the problems existing in the process of integrating industrial culture into the ideological and political teaching of higher vocational colleges, and explore a feasible path suitable for higher vocational colleges to provide reference for the innovation and inheritance of industrial culture.

#### **2.2 FOREIGN RESEARCH STATUS**

Although there are no majors named after "ideological and political education" or courses named after "ideological and political theory courses" in foreign countries, all countries have moral education courses that undertake the tasks of transmitting national mainstream values, strengthening ideological education and patriotic education, and the field of

foreign education has always attached great importance to integrating industrial culture into school education. Especially in industrialized countries in Europe and the United States, the kindergarten stage in the work do experience city to tour the future work world, experience industrial culture, cultivate vocational interests, and start vocational enlightenment education in primary school. For example, the first lesson for kindergarten children in Switzerland, the world's rich country, is to understand the simple tools such as sickles and axes used by their ancestors to open up their homes. Germany, a world manufacturing power, introduces the development of the three major industries, the layout of well-known enterprises and the development process of economy and technology in junior middle school geography textbooks around students' clothing, food, housing and transportation, and makes its education full of modern industrial culture with the help of the "dual system" school-enterprise cooperation mechanism in vocational education and higher education.

In short, foreign industrial culture and work values education has been very mature, fully reflects its practical and operable, explicit education and recessive education, theory and practice closely combined characteristics, worthy of our higher vocational colleges ideological and political lessons for reference.

#### **3. CONCLUSIONS**

Vocational education shoulders an irreplaceable responsibility in the construction of industrial culture, and the key way is to educate people, as Yuan Guiren, Minister of Education, pointed out: "The so-called teaching education, management education, service education, environment education, in the final analysis, are cultural education." In terms of human resource development, vocational schools and enterprises share the same goals and interests. Ideological and political courses are an important way to spread local industrial culture. They can deeply explore and explain the contents of industrial culture in line with socialist core values, and flexibly apply them in practical teaching. The need to continue the blood of industrial culture.

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# Research on the Causes of WeChat Voting Alienation from the Perspective of Philosophy of technology

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**Abstract:** Voting is an ancient behavior, and it is an important form for people to choose and express their democratic will. With the development of technology and social changes, the forms and methods of voting have been constantly adjusted, such as anonymous voting, electronic voting and other means are gradually emerging, but all of them have an impact on human life. The emergence of WeChat voting technology has achieved good compatibility with the core features of voting activities, such as broad survey topics, extensive social mobilization, short demand time and low application cost, which greatly facilitates the demand for public willingness collection. But at the same time, the alienation of WeChat voting has become increasingly prominent, which is manifested in the alienation of voting purposes, voting behavior, voting process, voting rules and voting results, thus deviating from the original intention of voting behavior, affecting the credibility and public identity of voting results. The reasons for the alienation of WeChat voting technology include institutional norms, interest pursuit factors and comprehensive safeguard factors, which include the broad theme and unscientific process, the utilitarian value pursuit orientation of participants, and the uneven context and technical loopholes of WeChat voting technology.

**Keywords:** WeChat voting, alienation; WeChat voting alienation; Strategy

WeChat is a new instant messaging software launched by Tencent in 2011, which has been eagerly sought after by a large number of users since its launch. The number of users has far exceeded other similar software types. At the same time, the platform based

development thinking of WeChat software enables it to continuously add new functions and complete its own empowerment. As a prominent feature among its many features, WeChat voting refers to an application that utilizes the WeChat platform to initiate convenient online voting methods. With the rapid development of WeChat carriers and the ability to quickly collect public opinions with simple operation, wide application, and low cost, WeChat voting has rapidly spread based on smartphones, becoming an important means of conducting public opinion surveys.

In today's rapidly developing era, the application of new media is becoming increasingly common, and the same applies to WeChat voting driven by the WeChat platform. The traditional voting method is time-consuming and requires a large amount of human and material resources. Based on this, the advantages of WeChat voting are gradually emerging, with a wider range of voting options available. Voters have a shorter voting time, and can complete the voting in just a few seconds with just a mobile phone [2]. There is no need to manually participate in counting votes, and smart vote counting can be used directly. The participating groups have a wide range of ages and regions, ranging from elderly people over 60 years old to children who have just come into contact with WeChat. From high-rise buildings in cities to rural houses and villages, as long as the network covers, they can participate in online voting activities on the WeChat platform. Due to these advantages, today's WeChat voting is rapidly expanding its user base, constantly penetrating into daily life, influencing and changing it.

In online social circles, we often encounter situations where although we are WeChat friends, we are usually

"lying dead" in each other's address book, and we rarely or never get in touch. However, since various official accounts launched similar voting activities, these "lying dead" groups have become extremely active, familiar and friendly, which surprised us. WeChat voting has changed from the original intention of simplifying traditional voting to making the general public "afraid". In online life, we often encounter this phenomenon: friends can pretend not to see it by posting on their Moments to solicit votes; Chat groups send out canvassing and accompanying red envelope thank-you messages. If the user group does not participate in the red envelope competition, they can also pretend not to see it; But what should I do once I am privately chatting, and can I still ignore it? As Robert Dahl said, "We are all equal in qualifications, and we should manage ourselves in a democratic way"[1]. Forced voting, the most basic right to democratic and free elections, cannot be guaranteed, and the practicality of voting results can only become empty talk. WeChat voting has broken away from the foundation of fairness, impartiality, and transparency, and has become a competition between people for networking and money, completely detached from the original meaning of voting. Merchants use consumers' vanity for profit, disrupting the authenticity and fairness of WeChat voting activities. If WeChat voting remains in this state, voting is meaningless. The reasons for its alienation are mainly influenced by institutional norms, interest pursuit, and comprehensive security factors.

### **1. OVERGENERALIZATION OF VOTING ACTIVITY THEMES**

Open a Search engine website and input "WeChat Voting", you can see many web links or words about "Shui Jun Swipe", "WeChat Automatic Voter", "WeChat Swipe", "WeChat Voting Group", "WeChat Voting Group", "WeChat Swipe Company", and "Free Voting Group". Many introductions are shocking. Not to mention whether it is true or false, the existence of these contents itself threatens the security, fairness, and reputation of WeChat voting.

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Faced with the current situation of WeChat voting extending horizontally to "360 lines, all lines are available", the excessive generalization of activity themes is an important reason for the alienation of WeChat voting. It is common to vote on the "2018 Campus Singer Ranking of a School" in WeChat Moments and select "Top Ten Kindergarten Children's Stars" and "Three Favorite Comedians in China". "The cyberspace formed by the Internet has deeply influenced people's way of life, communication, and thinking." [2] In the micro era, people's living space and communication perspective have been greatly expanded, with more open and diverse public spaces displayed, and online platforms showing richness and diversity.

This has formed an unprecedented micro era space. However, due to the frequent use of keyboard typing in the process of online communication, there is an increasing lack of face-to-face communication, which also leads to a certain lack of emotional communication. The low level fun and generalized themes of WeChat voting have already made the user community dislike it. In the context of emotional lack of online communication, voting has gradually become a cycle of soliciting votes and being solicited. In online relationships, I just saw a child from one family canvassing for a prize, and in an instant, I was invited to another family's parents to canvass for the top spot. WeChat voting was overwhelming, and I couldn't handle it. The excessive generalization of voting themes not only permeates daily life, but also seriously interferes with the normal pace of life. Nowadays, we unconsciously live in an era full of "tickets".

The too broad theme of voting activities obliterates the formality and Seriousness of voting. Before the vote was initiated, the initiator did not systematically consider the voting themes, resulting in a situation where many voting themes were not suitable for WeChat voting. For example, elections involving politicization, election of people's representatives, evaluation of year-end teacher awards, etc. This type of selection and election is relatively formal, and traditional voting should be used as much as possible,



or WeChat vote results cannot be used as the sole factor for measuring.

## 2. NON SCIENTIFIC VOTING PROCESS

Moreover, unscientific voting processes have gradually entered our lives: irregular voting, irregular counting, and irregular regulation, all kinds of strange phenomena have flooded into the originally serious and fair voting process. Compared to the institutionalization of traditional voting, although traditional voting models have many disadvantages compared to WeChat voting, voters show a high degree of self-discipline during the voting process, and candidates do not openly solicit votes during the voting process, especially without the intervention of vote brushing. We can't help but reflect on why, in the context of efficient and simplified voting, the credibility is not as good as before? Essentially, the over generalization of the theme makes WeChat users feel less Seriousness of voting itself, have no sense of responsibility to exercise voting right correctly, and unscientific voting process, which leads to the reduction of loyalty of WeChat voting user groups, the weakening of technical stickiness, and further leads to frequent alienation.

The irregularity of voting is mainly due to the lack of attention paid by the voting group to the voting process. The original intention of voters participating in voting is to express their will, which is a direct reflection of their actions on their hearts. During voting activities, there is a phenomenon of canvassing and brushing votes. The "black box" of voting rules highlights the non-standard voting process, making it difficult to ensure that the source of votes is "fresh" voters. Behind the popularity of voting activities, there may be a competition in the speed of voting machines.

For the irregular counting of votes, fundamentally speaking, although the setting of counting rules for WeChat voting is efficient and accurate, it is unfair. The voting method, which determines the outcome based on the number of votes, appears fair and just, leading to ambiguity in the counting rules, specifically manifested in the dispute between "one person, one vote" and "one WeChat account, one vote". According to traditional voting rules, each voter participating in

the voting activity holds one valid vote. The current WeChat voting activities cannot guarantee the implementation of the original rules. Simply put, the effective implementation of "one person, one vote" cannot be guaranteed. Based on WeChat technology factors, one person can repeatedly apply for different WeChat accounts using different account passwords, breaking the one-to-one pattern and forming a one-to-many situation. Here, one-to-many refers to the use of multiple WeChat accounts by one person. During the voting process, one person uses multiple WeChat accounts to vote, resulting in infinite repeated expressions of the same intention, resulting in an excessive weight of votes held by one person. However, the voting process is difficult to effectively identify such speculative phenomena. In the process of expressing public opinion, the subjective factor of one person with multiple numbers has led to a skewed proportion of votes from different voters. After the end of the WeChat voting activity, the WeChat public backend will conduct a vote count summary, and the phenomenon of one person with multiple votes will be included in the total number of votes. Even if the counting algorithm is scientific and accurate, it cannot fundamentally change the falsehood of the number of votes.

"A vicious cycle indeed seems to be an appropriate figurative metaphor for a society that, driven by the various growing needs it generates and contains, is self expanding and self perpetuating in its own predetermined direction"[3].The use of WeChat new media to accept social supervision, encourage public participation, and express collective public opinion was originally a measure for the benefit of the people. But the frequent use of online voting methods exceeds the "degree" of things themselves, not only failing to attract the public's attention, but also causing the public's aversion to WeChat voting.

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Unidirectional People: A Study of Ideology in

# Research on Education Opportunities for College Students in the Context of the Internet

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**Abstract:** Network context refers to the field and environment in which the network serves as a discourse activity. At present, the online context is a brand new space that cannot be avoided and rejected by the discourse of ideological and political education for college students. It not only brings opportunities to expand, enrich content, and update models to the discourse of ideological and political education for college students, but also challenges the mainstream discourse power to be impacted, the risk of discourse transformation to increase, and the status of subject and object to change. In order to fully connect with the online context, it is necessary to deeply grasp the opportunities faced by the discourse of ideological and political education for college students in the online context.

**Keywords:** Network context; Ideological and political education; College students

The network context has two typical characteristics: firstly, it has openness. The network context has emerged and developed with the emergence and development of the Internet, and the dissemination of information on the network has increasingly broken through various limitations of groups and individuals in traditional language communication. People are no longer constrained by the country, region, time, ideology, and can communicate in real-time and freely. People can freely express their opinions and opinions in such an open online space, and express themselves freely. Because of the open nature of the network itself, the language information in the network context is more abundant and diverse. The language in the network is updating and growing every moment. In the use of a variety of ideological, cultural and language, there are not only Chinese native language, but also

Western social thoughts and Western language. The ideas carried in the language have an incalculable impact on Internet users, especially college students who account for the majority of Internet users.

Secondly, the network context has a collective nature." Behind words lies the ghost of ideology"[1].With the rapid development of the Internet, the dissemination of information has changed the traditional oral and written forms, integrating text, images, sound, and video into one, forming a new information dissemination platform. In this platform, various forms of information are gathered here, and people can see a rich and colorful world online. With the development of new media technologies such as WeChat, specialized information gathering and forwarding functions have become prominent, forming an invisible information network in the network, making information dissemination in the network context more aggregative. In the context of the internet, people can not only obtain information through various forms, but also obtain a vast and diverse range of information content, integrating politics, economy, culture, military, sports, and entertainment. It can be said that the true "knowing the world's affairs without going out" is true. However, this collective nature also brings drawbacks, as the online context is filled with various beneficial and harmful information. For some netizens, especially college students with immature ideological and social concepts, their ability to screen information is relatively poor, and their ideological understanding is not comprehensive and correct enough. They are often induced by bad information to make inappropriate remarks, which are easily exploited by those with ulterior motives. So, the collective characteristics of online context not only enrich people's lives, but also

bring adverse effects.

The cyberspace not only breaks the limitations of time and space, but also breaks the differences in real-life factors such as gender, age, education, and social status. In online communication, both parties do not know the true identity of the other party, so netizens become a group exclusively belonging to the online world. This group is virtual compared to the real world, and as the subject of online discourse, it is even more hidden. They can use their virtual identity to freely express their opinions, This is more free and convenient for netizens, especially for college students who are willing and good at quickly accepting new events and expressing their ideas, which is more timely. However, under the cover of virtual identity on the internet, netizens are more likely to vent their personal anger, infringe on others' reputation, and even use the virtual identity on the internet to slander and insult others, which is not conducive to the cultivation of moral norms among contemporary college students.

In recent years, the internet has become an important channel for college students to obtain information. In the context of the internet, the discourse of ideological and political education for college students has developed by leaps and bounds, accompanied by numerous opportunities.

### **1. THE INTERNET CONTEXT EXPANDS THE SPACE OF IDEOLOGICAL AND POLITICAL EDUCATION DISCOURSE FOR COLLEGE STUDENTS**

"Universities are the base for cultivating the comprehensive development of college students, and their outlook on life and values have not yet matured"[2]. The progress of internet technology has further opened up the network context, and at the same time, the development of the network context has also expanded the discourse space of ideological and political education for college students. Due to the limitations of time, race, language, and other factors, traditional discourse communication in ideological and political education is not conducive to enhancing the timeliness of ideological and political education. However, the openness and rapid dissemination of the network context itself have freed ideological and

political education discourse from the constraints of reality, broken through the limitations of traditional discourse communication, expanded the scope of discourse communication, and provided a new space for the development of ideological and political education discourse.

The online context not only enriches the life connotation of college students, improves their cognitive abilities, but also sublimates their level of thinking. Due to the complexity of network information, almost all can speak freely on the network, which requires positive guidance from ideological and political education. Only in this way can college students stay away from low-level vulgarity and lead a positive and upward worldview, values, and outlook on life. If the discourse of ideological and political education can penetrate into the online context, with the help of online platforms, it can provide more educational opportunities, educational possibilities, and broader educational impact. College students have great autonomy and initiative, and can freely browse information online, choose information that is relevant or interesting to them, and then express their opinions and ideas. The proactive nature of choosing information methods allows for comprehensive and multi-level dissemination of ideological and political education discourse, integrating more new online discourse into ideological and political education discourse, and guiding educators to compare and screen discourse information. According to the development of practice, the expression and content of ideological and political education discourse can be updated in a timely and effective manner, in order to expand the breadth and depth of ideological and political education discourse and provide broader space for college students' ideological and political education discourse.

### **2. THE INTERNET CONTEXT ENRICHES THE CONTENT OF IDEOLOGICAL AND POLITICAL EDUCATION DISCOURSE FOR COLLEGE STUDENTS**

The open online context provides college students with a free and independent discourse expression platform, where both educators and learners can

communicate and express their opinions through the internet. Especially contemporary college students tend to express their ideas online, and educators can timely and targeted feel the ideological dynamics and needs of learners through the internet, promoting the development of ideological and political education activities.

Firstly, it enriches the form of discourse content in ideological and political education for college students. The online context is a diverse and ever-changing ocean of discourse, which not only encompasses discourse resources from ancient and modern times, but also constantly updates and changes. College students' perspectives in online life are becoming more open, their thoughts are becoming more diverse, and their awareness of independence and autonomy is becoming increasingly awakened. Traditional ideological and political education discourse often leaves stereotypes of being "dull and single," "dull and fixed," and "tall and upscale," which no longer meets the needs of college students. The discourse in the network context mostly comes from the actual life in pieces, endows it with plain and vitality, and integrates pictures, texts and images. In the discourse of ideological and political education, educators learn from and absorb the network catchwords and hot events that are popular among college students, and apply the principles and laws of ideological and political education, that is, ideological and political education, to make abstract theories concrete, national policies and guidelines live, and make the content of ideological and political education discourse of college students more colorful.

Secondly, to rationalize the content structure of ideological and political education discourse for college students. The discourse of ideological and political education for college students is constantly changing and developing according to the changes in real life. With the continuous updating and enrichment of college students' thoughts in the context of the internet, the research on the discourse content of ideological and political education has been continuously extended and developed from real life to the virtual world of the internet, achieving a perfect

connection between real life and virtual life. The openness, aggregation and virtuality of the network context become the inexhaustible discourse resources of the discourse content of ideological and political education for college students. The discourse resources of the network context are organically combined and innovated with the discourse of Marxist theory, and the network discourse that college students love and accept is refined and processed, which makes the vitality and progressiveness of the discourse of ideological and political education constantly burst out.

### **3. UPDATED THE COMMUNICATION METHODS OF IDEOLOGICAL AND POLITICAL EDUCATION DISCOURSE FOR COLLEGE STUDENTS**

"The cyberspace formed by the Internet has deeply influenced people's way of life, communication, and thinking"[3]. The online context not only enriches the content of ideological and political education discourse for college students, but also updates the dissemination methods of ideological and political education discourse. In the context of the internet, ideological and political education discourse has broken through the single form of traditional ideological and political education discourse dissemination. With the help of network technology, its dissemination methods have become more diverse, such as the use of WeChat, QQ groups, forums, emails, and other applications. New media technology generally integrates images, sounds, text, and videos, and ideological and political educators can use application apps to timely understand the ideological changes of the educated, conduct communication and exchange; In addition, educators can also adopt innovative ways to disseminate the content of ideological and political education discourse, choosing different dissemination methods that are popular and interesting to college students for information dissemination. This not only broadens the radiation field of ideological and political education discourse, enriches its carrying capacity of information, but also enhances the attractiveness and infectivity of ideological and political education discourse, facilitating the development of ideological

and political education activities.

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# Problems and Countermeasures of the Construction of Teachers in Private Colleges and Universities

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**Abstract:** Private higher education is an important part of China's education. At present, the teachers in private colleges and universities have the following problems: large mobility and instability; The structure is unreasonable; Teachers are poorly paid. To this end, the following measures can be taken to promote the construction of teachers in private colleges and universities: strengthening the legal protection of the construction of teachers in private colleges and universities; Increase the fund support for the construction of teachers in private colleges and universities; Establish a scientific and reasonable appointment system; Teachers should do a good job of positioning themselves.

**Keywords:** Private colleges and universities; Higher education; The teaching staff; Educational cause.

## 1. INTRODUCTION

Private colleges and universities are an important part of socialist education in our country. Our country adopts the policy of encouraging private education actively and managing it in accordance with relevant laws. Private education should abide by the relevant legal system of the state and run schools according to the educational guidelines of the state, so as to ensure the quality of education and teaching and train useful talents for socialist construction. The school-running mode of private colleges and universities in our country is social. Private colleges and universities are invested and established by individuals or social groups and are responsible for their own profits and losses. From the perspective of the organizers of the construction of private colleges and universities and the investors of funds, the social nature of China's

private colleges and universities is very strong, and the way of education and training of students in private colleges and universities is more inclined to socialization[1].

## 2. CHARACTERISTICS OF THE DEVELOPMENT OF PRIVATE COLLEGES AND UNIVERSITIES IN CHINA

### 2.1 CHARACTERISTICS OF RUNNING PRIVATE COLLEGES IN OUR COUNTRY

The funds for running schools of private colleges and universities in our country do not rely on the state financial appropriation, and social forces are the main body of running schools of private colleges and universities in our country. There are many differences between national and public colleges and universities, but no matter whether they are private colleges or public colleges and universities, they are an important part of our social justice education. The self-financing mode of private colleges and universities determines that their survival is affected by the quality of education and teaching. When running education, private colleges and universities attach great importance to the evaluation and feedback of parents and students, and the responsibility of education and teaching is greater. With the decrease of the number of college entrance examination students year by year, private colleges and universities are facing great challenges. Therefore, private colleges and universities pay more and more attention to improving the quality of higher education[2]. Private colleges and universities need a systematic reform, to pay attention to the improvement of school quality and efficiency, and if China's private colleges and universities want to take the road of sustainable development, it is

necessary to strengthen the construction of private colleges and universities teachers, to build a high teaching quality, strong scientific research ability and innovative ability of teachers.

## **2.2 THE DEVELOPMENT PROCESS OF PRIVATE UNIVERSITIES IN CHINA**

The development of China's private colleges and universities has gone through three stages: the first stage is the embryonic stage. At this stage, the state's policies and regulations on running private colleges and universities are not very mature, and the recognition of private colleges and universities in the society is biased, and private colleges and universities are in a disadvantageous situation. The state began to propose laws and regulations for private colleges and universities, and there were fewer teachers in private colleges and universities. The second stage is a period of rapid development. In 1999, the central government put forward the policy of great development of China's higher education, and China's colleges and universities began to expand enrollment, and the number and scale of private colleges and universities gradually increased. At this stage, the state began to issue corresponding laws and regulations on private education, which played a protective role in the development of private higher education in our country. The third stage is the transition period. The development of private education also has many problems, and the competition among private colleges and universities has become increasingly fierce, and some private colleges and universities have to close down in the competition[3].

## **3. PROBLEMS EXISTING IN THE CONSTRUCTION OF TEACHERS IN PRIVATE COLLEGES AND UNIVERSITIES IN CHINA**

### **3.1 THE TEACHERS IN PRIVATE COLLEGES AND UNIVERSITIES ARE HIGHLY MOBILE AND UNSTABLE**

Compared with public colleges and universities, the mobility of teachers in private colleges and universities is relatively large. The reason lies in the unscientific management of education and teaching and the lack of effective reward mechanism in private colleges and universities. Moreover, teachers in

private colleges and universities do not adapt to the teaching environment in private colleges and universities. There are also some teachers who take work in private colleges and universities as a transition, working in private colleges and universities is temporary, and will change jobs after accumulating teaching experience. Teachers feel that the development space of civilian-run colleges and universities is limited, and they are not willing to stay in private colleges and universities, and some teachers will travel between multiple private colleges and universities to choose good private colleges and universities to work.

### **3.2 THE STRUCTURE OF TEACHERS IN PRIVATE COLLEGES AND UNIVERSITIES IS UNREASONABLE**

The teachers in private colleges and universities are not reasonable either in age structure or professional structure. Most of the teachers in China's private colleges and universities are full-time teachers of undergraduate colleges and universities, and some are retired college teachers. The number of full-time teachers in private colleges and universities is not high, and the number of teachers with dual qualifications is even less. The overall quality of teachers is low, strict and heavy, which affects the teaching quality. The instability of the organization structure of private colleges and universities is not conducive to the healthy development of teachers.

### **3.3 TEACHERS IN PRIVATE UNIVERSITIES ARE POORLY PAID**

The salary of teachers in private colleges and universities mainly comes from the tuition fees of students, and the enrollment situation of private colleges and universities determines the salary income of teachers. China's public colleges and universities adopt the retirement endowment insurance system of public institutions, while private colleges and universities adopt the basic endowment insurance system of enterprise employees. These two situations eventually lead to the salary of teachers in private colleges and universities after retirement is much less than that of teachers in public colleges and universities. These factors seriously affect the stable construction



of teachers in private colleges and universities.

#### **4. THE COUNTERMEASURES FOR THE CONSTRUCTION OF TEACHERS' RANKS IN CHINA'S PRIVATE COLLEGES AND UNIVERSITIES**

##### **4.1 STRENGTHEN THE LEGAL PROTECTION FOR THE CONSTRUCTION OF TEACHERS IN PRIVATE COLLEGES AND UNIVERSITIES**

In order to improve the social status of civilian-run colleges and universities, it is necessary for the society to enhance the recognition of civilian-run colleges and universities. Both civilian-run colleges and universities are an important part of our country's education. In policy and law, we should strengthen the protection of private colleges and universities, the government should vigorously support the construction of private colleges and universities, especially the construction of teachers, and establish a stable and healthy environment for the development of higher education.

##### **4.2 INCREASE THE FUNDING SUPPORT FOR THE CONSTRUCTION OF TEACHERS IN PRIVATE COLLEGES AND UNIVERSITIES**

For private colleges and universities, the government should also increase financial support, no matter private colleges and universities or public colleges and universities, they should be treated equally financially, especially in the aspects of student subsidies and tuition subsidies.

The government should provide a good development space for the development of teachers in private colleges and universities, and strengthen the financial support for private colleges and universities. In addition, scientific means should be adopted to monitor and control the investment and use of educational funds, so as to make information public.

##### **4.3 STRENGTHEN TEACHER EDUCATION AND TRAINING TO IMPROVE THE QUALITY OF PRIVATE TEACHING**

At present, improving the quality and ability of private teachers is the key problem to be solved in civilian-run schools, and it is also the landing point and entry point for the construction of teachers' teams in private colleges and universities. Compared with public

colleges and universities, the teaching difficulty and teaching emphasis of private colleges and universities have certain particularities. In the teaching process design, private high school teachers need to spend more time and energy to consider and refine, because of this, the requirements for teachers' comprehensive quality level are more comprehensive and strict.

On the one hand, private colleges and universities should strive to improve the vocational cultivation of all teachers and moral education. On the other hand, strengthen the teacher's teaching skills, professional water level, comprehensive quality and other business and knowledge training. Develop a training plan for young teachers, make full use of resources inside and outside the school, strengthen the interaction between old, Chinese and young teachers with the old to bring the new and the new to promote the old, and realize mutual complement of advantages and common growth. The quality construction of teachers and the overall improvement of teachers' quality are continuously promoted by means of learning and technical exchange, teaching competition, scientific research management, teaching and research activities, etc.

##### **4.4 TEACHERS SHOULD DO A GOOD JOB OF POSITIONING THEMSELVES**

Teachers in private colleges and universities should reasonably determine their career goals and make career plans. Teachers should do a good job in teaching, and strive to improve the level of scientific research and teaching, so as to realize their own value. Colleges and universities run by the people should strengthen the training and learning of teachers, and increase the investment in the training and learning funds of teachers in private colleges and universities.

#### **5. CONCLUSIONS**

In order to promote the development of private higher education, we should adopt scientific and reasonable methods in the construction and management of teachers in private colleges and universities.

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# Present Situation and Improvement Path of Labor Education in Higher Vocational Colleges

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**Abstract:** Labor is the basic path to realize the all-round development of human beings, and labor education is an educational activity to explore the educational character of labor and guide the educatees to constantly improve themselves. The level of labor education of students in higher vocational colleges is directly related to the process of construction and reform of industrial workers. Therefore, by analyzing the current situation and existing problems of labor education in higher vocational colleges, this paper puts forward targeted ways to improve labor education in higher vocational colleges. Through deepening ideological understanding, establishing curriculum system, strengthening teacher training, enriching educational resources, perfecting evaluation mechanism, promoting model worker spirit, labor spirit, craftsman spirit and inheriting good family tradition, etc. Promote the development of labor education in higher vocational colleges together with society and family.

**Keywords:** Higher vocational colleges; Labor education; Improvement path

## 1. INTRODUCTION

Higher vocational colleges are mainly to train highly skilled technical skills and skilled workers with high quality, and as the new force and successors of China's industrial workers, students in higher vocational colleges have the responsibility to inherit and carry forward the fine tradition of the working class to love labor and diligently create, and support the industry to revitalize the country with honest labor and creative labor. Strengthening the labor education of students in higher vocational colleges is conducive to students

forming correct labor values and forming good labor habits, and is conducive to building a team of industrial workers who have ideals and beliefs, understand technology and innovation, and dare to act as dedication, so as to accelerate the process of the great rejuvenation of the Chinese nation[1].

## 2. THE PRESENT SITUATION AND EXISTING PROBLEMS OF LABOR EDUCATION IN HIGHER VOCATIONAL COLLEGES

### 2.1 PRESENT SITUATION OF LABOR EDUCATION IN EDUCATION SYSTEM

In recent years, the introduction of a series of labor education policy documents makes labor education become the focus of the education system, and the concept of "five education simultaneously" has gradually formed. More and more experts, scholars and schools are actively involved in the exploration of labor education theory and practice in the new era, and gradually find out some useful methods. But in the implementation of labor education, there are still some unclear places. For example, some schools pay attention to the cultivation of labor skills, but ignore the cultivation of labor spirit. Some schools can ensure that students master certain theoretical knowledge and labor skills, and can also ensure that students have a certain length of labor practice, but students are still unwilling to participate in labor in actual study and life, or even ashamed to participate in labor[2]. Students regard participation in labor as a task that is forced to be completed, fail to establish the values of loving labor and advocating labor, fail to develop good working habits, and fail to understand the important role of labor for the overall development of people, and thus fail to achieve the expected effect

of labor education.

## **2.2 CURRENT SITUATION OF LABOR EDUCATION IN HIGHER VOCATIONAL COLLEGES**

First, the educational nature of labor is not fully recognized. Labor is the basic path to realize the all-round development of human beings, and labor education is an educational activity to explore the educational character of labor and guide the educated to constantly improve themselves. Labor has comprehensive or unique educational value, but this does not mean that labor is necessarily educational. Only by organizing labor practice activities from the standpoint of education can the educational character of labor be realized. Higher vocational colleges generally pay more attention to labor education in the process of implementation, but in how to refine and sublimate the educational aspect of labor process understanding is not enough, labor education curriculum attaches importance to labor skills training, lack of due educational guidance, often appear labor without education phenomenon[3].

Second, the curriculum of labor education is not systematic. The students trained by higher vocational colleges are the new force and successors of the industrial workers. Therefore, higher vocational colleges should aim at cultivating high-quality industrial workers in the new era and set up systematic and hierarchical labor education courses. The content of the course should cover labor values, labor attitudes, labor skills, labor morality and labor practice, so as to comprehensively train laborers in the new era to love labor, be able to work, and be able to work. At present, some schools are not perfect in the subject construction and curriculum system design, resulting in the labor education curriculum is broken down into several scattered modules, which are neither related to each other nor can confirm each other, and can not form an organic teaching system. Third, the lack of professional teachers. At present, the labor education courses in higher vocational colleges are mainly composed of ideological and political teachers or counselors.

## **2.3 CURRENT SITUATION OF SOCIAL AND ACADEMIC PUBLISHING HOUSE**

## **FAMILY LABOR EDUCATION**

With the progress of science and technology and the industrial application of a large number of high and new technologies, the social production efficiency has been greatly improved, the social division of labor has been continuously refined, the access to material resources has become relatively easy, the income gap between industries and regions is large, and the influence of Western multiculturalism and consumerism has gradually weakened the atmosphere of diligence, thrift, honest labor and practical labor. Students do not have a high sense of identity with their major and future occupation, and are unwilling to seek improvement of economic conditions and personal growth and development through practical labor. This has a negative impact on the labor education of students in higher vocational colleges.

## **3. THE IMPROVEMENT PATH OF LABOR EDUCATION IN HIGHER VOCATIONAL COLLEGES**

### **3.1 VIGOROUSLY PROMOTE THE SPIRIT OF MODEL WORKERS, LABOR SPIRIT AND CRAFTSMAN SPIRIT**

Vocational colleges should vigorously promote the spirit of model workers, labor spirit, craftsman spirit, love their jobs, strive for first-class, hard work, innovation, indifferent to fame and wealth, willing to contribute to the spirit of model workers, advocating labor, love labor, hard work, honest labor spirit, The craftsman spirit of dedication, excellence, meticulousness and pursuit of excellence permeates the whole process of talent training, creating a reserve army of high-quality industrial workers. The first is to explain the theories of model worker spirit, labor spirit and craftsman spirit clearly and thoroughly in class, so that students can truly understand their rich connotation and effectively grasp the dialectical relationship between them. The second is to invite model workers into the campus to communicate with students face to face, stimulate students' enthusiasm for learning model workers and advocating labor, and drive all students to learn, catch up with and be advanced. The third is to organize students to visit the innovation studio of model

workers, and feel their hard work, innovation, hard work, honest work, excellence, and meticulous spiritual quality and ideal belief.

### **3.2 WE WILL GIVE FULL PLAY TO THE ROLE OF SCHOOLS AS THE MAIN FRONT AND STRENGTHEN LABOR EDUCATION PRACTICE**

First, to carry out labor education in higher vocational college students, it is necessary to fully understand the significance of labor education to the overall training of people, establish correct labor values, strengthen labor consciousness, and cultivate good labor habits. Correct labor values can not only lead the way forward, but also create motivation for us. As long as students can recognize the goal of labor education and turn labor into the carrier of their own value orientation, they can get strong and lasting motivation. Second, establish and improve the labor education curriculum system in higher vocational colleges, and set reasonable teaching hours and credits.

In the process of freshman enrollment education, the development of the relevant industry and the advanced deeds of model workers are publicized, and the publicity activities with the theme of labor creating happiness are carried out, so as to cultivate students' labor feelings of love and dedication, and encourage students to have the courage to create and catch up with the consciousness of surpassing. In the teaching of students' professional skills, we should fully explore and use the materials of professional labor education, closely combine professional skills education with labor education, improve students' labor skills, labor innovation, labor practice experience and cultivate students' good labor habits. In the internship stage of students about to graduate, it is still necessary to pay attention to guiding students to respect labor, honest labor, improve students' labor literacy, so that they can establish a correct employment concept and career concept.

### **3.3 ATTACH IMPORTANCE TO FAMILY LABOR EDUCATION**

The family is the first school of life, and parents are the first teachers of their children. The attitude and behavior of the family head towards labor directly

affect the child's labor cognition.

Therefore, in family education, parents should actively guide children to form a correct understanding of labor in the process of their children's growth, develop good working habits, and pay attention to cultivating children's positive labor concepts and labor attitudes. First, parents should strengthen positive guidance, change their habits of doting on their children, affect the formation of children's labor concepts with their own labor attitude and dedication, enhance children's labor awareness, cultivate children's labor habits, and let children respect labor and respect workers. Second, parents should help their children establish good habits of advocating labor and loving labor in the process of their children's growth, and create a good family environment for their children's growth. In parallel, parents should not only work themselves, constantly improve their labor quality, but also let their children see and learn, and pass on the good family traditions such as hard work, diligence and thrift, and love labor. Third, parents should continue to enrich the contents of family education. In daily family life, you can carry out labor education for children anytime and anywhere, such as doing housework with children, participating in community public welfare labor, etc., in fact, these are also part of family labor education.

### **4. CONCLUSIONS**

At present, a new round of scientific and technological revolution and industrial change is developing deeply, China has shifted to a stage of high-quality development, from a manufacturing country to a manufacturing power needs a high-quality and high-skill industrial workers army, strengthen the labor education of students in vocational colleges, is conducive to building a team of industrial workers who have ideals and convictions, understand technology and create new things, and dare to play the role of dedication. And then accelerate the process of the great rejuvenation of the Chinese nation. Therefore, in the face of the cognitive deviation of labor education, the influence of social unhealthy labor atmosphere, the dilution of family labor

education and some practical problems of labor education in higher vocational colleges,we must actively respond to it,start from the education system,deepen ideological understanding,establish a systematic and comprehensive curriculum system,strengthen the training of professional teachers,and enrich education and teaching resources.Optimize the evaluation content and evaluation methods,vigorously promote the spirit of model workers,labor spirit and craftsman spirit,inherit the good family tradition,gather the strength of society,schools,families and other parties,ensure the effective implementation of labor education,and provide talent guarantee for the comprehensive construction of a modern socialist country.

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