

# Research on the Strategy of Cultivating University Creative Talents Based on Industrial College

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**Abstract:** In this paper to letter and the present situation of talent shortage as a starting point, analyzes the present situation of college letter and talent training, put forward the construction of modern industry college, including building letter and talent training demonstration platform, build the letter and industry science and technology innovation platform, make teaching fusion practice employment platform, deepen the connotation of the fusion, the construction of education fusion curriculum system, analysis of school, enterprise, political cooperation advantages and development plan, realize the reform of software technology personnel training mode.

**Keywords:** Industrial college, Construction of ideas, Ability training and practice teaching system.

## 1. Introduction

Since the trade war between China and the United States, Chinese high-tech enterprises, mainly Huawei and ZTE, have been restricted by the United States. Chip, basic software, hardware and middleware by American enterprise monopoly, become a big problem in the development of China's information industry, caused the attention of the country, the game of science and technology game to accelerate the process of China digital new infrastructure, to realize the independent technology controllable strategy to lay the foundation, to further promote the development of localization and letter and the industry.

At present, the domestic policy background, science and technology background, industrial background and educational background have accelerated the development of information technology application and innovation (hereinafter referred to as Xinchuang) education.

### 1.1. Policy Background

In the Proposal of the Central Committee of the Communist Party of China on the 14th Five-Year Plan for National Economic and Social Development and the Vision for 2025, in 2025, China's economic strength, scientific and technological strength and comprehensive national strength will increase greatly, increase the economic aggregate and per capita income of urban and rural residents, improve the key core technologies and achieve new industrialization, informatization, urbanization and agricultural modernization, and build a modern economic system.

### 1.2. Economic Background

As Xi Jinping once pointed out, the digital transformation of the world economy is the trend of The Times. From the perspective of the global trend, the digital economy is booming, covering all aspects of life, such as production, circulation, trading and consumption. China's 14th Five-Year Plan specifically talks about "accelerating digital development and building a digital China", focusing on the development of digital economy issues such as "building new advantages of digital economy", "accelerating the pace of digital society construction", "improving the level of digital

government construction" and "creating a good digital ecology".

### 1.3. Industrial Background

In order to solve the problem that upstream core technologies are subject by others, the state has put forward the "2 + 8" security and controllable system. The year 2020-2022 is the most important three years for the promotion of the national security and controllable system. The basic hardware, basic software, industrial application software and information security of China's IT industry are expected to usher in a wave of domestic substitution. These are all designed to achieve the goal of trust and creative development: autonomy and control. Innovation, the application innovation of information technology, is an important national strategy at present.

### 1.4. Educational Background

On December 5, 2017, The General Office of the State Council General Office of the State Council several opinions on deepening the fusion of education, points out that the main goal of deepening education fusion is, gradually improve the industry enterprises to participate in running degree, improve the diversified education system, fully implementing collaborative education, with 10 years time, education and industry as a whole, the development of benign interaction pattern overall formation, demand oriented talent cultivation mode, talent education supply and industrial demand major structural contradictions basic solve [1].

## 2. Trust and Creative Talent Training

### 2.1. Talent Status of the Trust and Innovation Industry

As General Secretary Xi Jinping once pointed out, the digital transformation of the world economy is the trend of The Times. From the perspective of global trends, the digital economy is booming, covering all aspects of life, such as production, circulation, trading and consumption. China's 14th Five-Year Plan specifically talks about "accelerating digital development and building a digital China", focusing on the development of digital economy issues such as

"building new advantages of digital economy", "accelerating the pace of digital society construction", "improving the level of digital government construction" and "creating a good digital ecology".

## **2.2. The Significance of Cultivating Trust and Creative Talents in Colleges and Universities**

How to integrate the core industry of xinchuang into the talent training in colleges and universities? In the current situation, the favorable side is reflected in: there are policies, support and conditions.

Policy support: Outline of the Fourteenth Five-Year Plan for National Economic and Social Development of the People's Republic of China and 2035 Vision Objective: Adhere to the core position of innovation in China's overall modernization drive, take scientific and technological self-reliance as the strategic support for national development; strengthen the national strategic scientific and technological strength. Formulate the action program for the science and technology power, improve the new nationwide system under the socialist market economy, fight the tough battle of key core technologies, improve the overall efficiency of the innovation chain; and strengthen the innovative application of key digital technologies. Gather high-end chips, operating systems, artificial intelligence key algorithms, sensors and other key neighbors. We will strengthen the integrated research and development of universal processors, cloud computing systems and software core technologies. New development pattern: accelerate the construction of domestic cycle as the main body, domestic and international cycles promote each other.

State support: On July 21, 2021, the Ministry of Education and other six departments issued the Guiding Opinions on Promoting the Construction of New Education Infrastructure and Building a High-quality Education Support System, which clearly proposed to "promote the application and innovation of information technology, and promote the localization transformation of data centers, information systems and office terminals.

Teaching conditions: the school has a place, a source of students, and a management system. The adverse factors mainly show "three deficiencies": lack of standards, lack of platform, lack of resources. Specific problems: first, the lack of standards: curriculum standards, how to set the curriculum to cultivate the talents needed by the industry, talent training standards, how to cultivate, the integration of industry and education standards, what is qualified, and how to implement the integration of industry and education in colleges and universities. Second, there is a lack of platforms: innovation and entrepreneurship platform, industry-education integration platform, internship and employment platform. Three is the lack of resources: project resources; certificate resources; expert resources; technical resources; course resources; teacher resources; project resources [2].

## **3. Construction Idea of Modern Industry College**

The current situation determines that the construction of the trust and creative talent training ecology must be through the construction of "integration of industry and education", and the integration of industry and education is the construction

of modern industrial colleges.

### **3.1. Build a Demonstration Platform for Cultivating Trust and Creative Talents**

The construction of modern industry college is first to build a demonstration platform for cultivating trust and creative talents. Adopt the government, industry, universities and enterprises. Colleges and universities provide students, sites and a systematic system. Enterprises to provide technology, experimental facilities, projects, internship and employment requirements, etc. The government provides the policy support. The industry provides industrial environment, information platform, experimental environment, curriculum, talent standards, teacher training and other construction. Through the linkage of the four parties to achieve the common goal, the construction of scale, connotation of the modern industry college [3].

### **3.2. Build a Platform for Scientific and Technological Innovation for the Credit and Innovation Industry**

The construction of modern industry college is secondly to build a platform for scientific and technological innovation of the trust and innovation industry. Through project incubation, entrepreneurship and innovation competition, innovation experience exchange, capital, project screening, entrepreneurship guidance, entrepreneurship guidance class into ideological and political courses, invention patent achievement transformation and other forms, it is the best channel to achieve the goal of scientific and technological innovation of credit innovation industry and achieve talent benefits.

### **3.3. Build an Internship and Employment Platform for Integrating Industry and Education**

The construction of modern industry college is ultimately to build a platform for internship and employment integrating industry and education. In the letter and industry environment, through the post docking, for students internship and employment guidance, establish industrial park, post demand immediate release, project into the campus, practical curriculum can do project, enterprise project manager with the school project instructor, responsibilities as the project manager, the enterprise project system to the school students, through the attractive treatment counterpart employment, realize the goal of job matching degree. Using the industrial college built by the university, enterprise and government, establish a standard system, and [4] the management mechanism through the industry-education cooperation committee.

## **4. Deepening the Connotation of the Integration of Industry and Education**

Innovation is not the ultimate goal, but to build independent and controllable new infrastructure. The future talent is based on new infrastructure, which is a huge market for talent export of the College. The main way to realize the creative talent is to deepen the integration of industry and education, which includes the co-construction of professional groups, curriculum co-construction, "double teacher" training,

laboratory co-construction, employment practice and internship and other links.

#### **4.1. Joint Construction of Professional Groups**

With the concept of innovation, green, open and coordinated development, we will build new professional groups with 5G, UHV, new energy, big data center, artificial intelligence, industrial Internet, cloud computing, artificial intelligence, blockchain, virtual reality, intelligent intelligence and technology as the goals of new infrastructure construction. Including core chips based on electronic technology, microelectronics technology, computer science and technology, basic hardware based on embedded technology and Internet of Things technology, replacing the traditional core majors with network engineering, network technology, the cloud computing and network security technology, including the basic hardware, basic software, application software and information security. Focusing on artificial intelligence, big data, block chain and other 14th Five-year key industrial technologies, realizing innovation and cutting-edge professional [5] based on the base of credit and innovation education.

#### **4.2. Curriculum Co-construction**

With the main vocational courses as the core of the curriculum group design, jointly build gold courses and supporting teaching materials.

#### **4.3. Cultivation of "Double Teachers"**

To examination, certification and other ways to carry out the teaching team construction. Curriculum and certification system: three certification levels, five course directions, and two certification methods.

#### **4.4. Laboratory Co-construction**

Jointly build a training base and a joint laboratory. Hardware experiment equipment: web server, database server, application server, cloud computing node, distributed storage node, management switch, business switch, workstations, cabling system, cabinet. Software: operating system, database management system, web server management system, application server management system, distributed storage system, cloud platform management system [6].

### **5. Construction of a Standard Curriculum System**

The core of the construction of xinchuang major is the curriculum system design, and it puts forward the career-centered curriculum design ideas. In the first year of university, in the second year of university, the basic computer courses mainly correspond to the basic courses; in the second year, the core courses of computer technology are dominated, which correspond to the vocational courses of communication. Junior computer technology module, corresponding to the letter creation of vocational courses. Build the standard curriculum system from the following three aspects.

#### **5.1. Major Setting and Teaching Material Instructions**

(1) The textbook takes the career system as the core and oriented to application-oriented universities.

(2) On the basis of traditional information technology, the major is oriented to the professional environment and scene

of ICT.

(3) With the trust and creative teaching materials as the core, organize and configure the general information technology courses, form a vocational course group, and serve the implementation of the talent training program.

#### **5.2. A Major Majoring in Software Technology**

Talent is the foundation of the credit and innovation industry. The trust and innovation talents trained are mainly concentrated in 3 major occupations and 5 auxiliary occupations. The three major occupations include the database application developer, the software development engineer, and the application research and development engineer. The five auxiliary occupations include system management engineer, database management engineer, network security engineer, network management engineer, and private cloud engineer.

#### **5.3. Curriculum Group Design with Major Vocational Courses as the Core**

Taking the career of database application development engineer as an example, training a qualified database application development engineer must learn five courses of [7], including database principle, SQL language foundation, Shell script foundation, programming foundation and data structure.

### **6. Cooperation Advantages and Development Plans**

Through the government resources sharing, expert resource sharing, technology resources sharing, project resources sharing, employment resources sharing support and services, provide production fusion mode of talent training scheme, provide letter on the construction of curriculum system, provide work process oriented teaching material, provide enterprise project management practice, provide industry ecological demand employment guidance, implement five "sharing", five "provide" [8].

### **7. Conclusion**

Information technology and the depth fusion is the focus of the development of industry, under the policy incentives and guidance, collaborative talent training system can realize the high quality graduates of colleges and universities output, in order to promote our letter and industry fast, healthy, high quality development support, in order to speed up the development of digital, the construction of digital China continuous contribution strength.

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