

# *Research and Practice on the Training Mode of Characteristic Talents—Taking Huanghe Communications University as an Example*

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**Abstracts:** By exploring the "12345" talent training mode, we can explore the characteristics of the school, the specialty and curriculum, highlight the application, and strengthen the practice. Through strengthening the position of teaching center, paying attention to the construction of teachers' teaching level, and using network teaching resources to enrich the implementation guarantee of teachers' and students' learning, we can realize the training of high-quality applied talents.

## **1. Introduction**

After years of development, China's higher education has made breakthrough achievements. The comprehensive reform of higher education has been comprehensively and deeply promoted. Talent training has become the focus and focus of higher education. At present, it is in a critical period of connotation development, quality improvement and reform, and a critical stage of comprehensively improving talent training ability and building a strong country in higher education.

In the undergraduate talent training, Huanghe Communications University aims to create a first-class application-oriented private undergraduate university in the province, and serves the national development strategy and regional economic and social development as the guide, in order to explore and construct the "12345" talent training mode, and focus on cultivating high-quality application-oriented talents with comprehensive development of "good character, good entrepreneurship, and good potential development".

## **2. Connotation of "12345" talent training mode**

In 2014, Huanghe Communications University was upgraded to an ordinary undergraduate university with the approval of the Ministry of Education, and renamed Huanghe Communications University. It is the only application-oriented undergraduate university in Henan with the characteristics of cultivating transportation talents. According to the orientation of service orientation, the school fully explores the characteristics of running a school, adheres to the school running concept of "combining knowledge with action and developing with characteristics", and explores and constructs the "12345" talent training mode

The "one center" means insisting on the application-oriented cultivation as the center; We should adhere to the concept of "student centered, output oriented and continuous improvement", and take

practical ability training as the main line, so as to highlight application, ability, entrepreneurship and employment, grasp a central point, and adhere to application-oriented training as the center.

The "two orientations" refer to the demand for local economic and social development and the talent demand of industrial enterprises; Guided by serving the local development and the talent needs of industrial enterprises, based on the actual situation and development needs of the university, we should adjust and optimize the professional layout, cultivate and refine the professional characteristics, in order to build a discipline and professional system with distinctive characteristics, and form a "high-quality application-oriented talent training system" that meets the needs of local economic and social development and innovation driven development.[1]

The "three strengthening" refers to strengthening practice, ability and characteristics, constructing an integrated practice teaching system inside and outside the class, and strengthening the practice teaching links; We can set up compulsory credits for innovation and entrepreneurship, quality development and general education, and guide students to participate in multi-level subject competitions; We should adhere to the "characteristic development" strategy, focus on transportation, application, cultivating competitive advantages, and highlight the characteristics of local schools.

The "four systems" refer to curriculum, practice, innovation and entrepreneurship, and quality development; The curriculum system is constructed in the way of "platform + module", which is composed of general education platform, professional education platform and practical teaching platform.

The "five educations" refers to the school's efforts to cultivate high-quality application-oriented talents with ideals and beliefs and a sense of social responsibility, solid professional foundation, strong practical ability, courage to innovate and entrepreneurship, and comprehensive development of morality, intelligence, physique, art and labor. Under the orientation of the training goal, the school will carry out moral education and comprehensive development throughout the training of talents.

### **3. Implementation path of "12345" talent training mode**

Starting from serving the needs of local economic and social development and meeting the employment requirements of industrial and industrial enterprises, with the training of high-quality application-oriented talents as the guide and the improvement of ability as the core, the curriculum system is set up scientifically to truly achieve the comprehensive and coordinated development of knowledge, ability and quality. "12345" talent training mode conforms to the positioning of local undergraduate institutions and is based on regional development.[2]

#### **3.1. Fully exploring the characteristics and cultivate**

##### **3.1.1. Promoting the integration of production and education and implement collaborative education**

The university has successively cooperated with Zhengzhou Machinery Research Institute, Huawei Technology Co., Ltd., Aerospace Information Henan Co., Ltd., Dongfeng Passenger Vehicle Company and other well-known enterprises to establish five industrial colleges, including high-end equipment manufacturing and Information Engineering College, Kunpeng Industrial College, Intelligent Construction College, Dongfeng Fengshen Industrial College and Golden Tax Industrial College. The University and the enterprise jointly build specialties, jointly cultivate talents, jointly build nearly 20 laboratories such as industrial robots, and jointly develop more than 10 textbooks such as *Computer Network*. The 10KV box type substation developed by Kunpeng Industrial College has been applied in Henan Baoquan Electronic Equipment Manufacturing Co., Ltd., successfully realizing economic transformation and generating good economic benefits. More than 80% of the

graduates of Kunpeng Industrial College are employed in Huawei Kunpeng Ecological Enterprises. The university has jointly built the only national intelligent clean energy vehicle supervision and inspection center in Henan Province in the south campus to jointly create an automobile experiment and training base integrating production and education.

### **3.1.2. Serving the development of modern comprehensive transportation and implementing transportation education**

Facing the development needs of green transportation, intelligent transportation and safe transportation in Henan Province, the school has set up the course of *Introduction to transportation* in all majors of the school, built a "transportation +" professional group, and focused on cultivating application-oriented talents with transportation characteristics. The university's engineering majors accounted for 65.3%, and three provincial-level first-class majors. Dongfeng Peugeot Dongfeng Citroen, Dongfeng Fengshen, Chery Henan Marketing and Tesla training centers have been established. More than 20 orientation classes have been opened in the school, with more than 1000 students and 15000 employees trained for enterprises. Among the technical backbone and cadres above the competent level of 4S stores in cities and counties in Henan, the graduates of our school account for more than half, making contributions to the development of transportation in Henan.

### **3.1.3. Implement comprehensive education to improve the employment level of students**

The school has fully implemented the students' quality development and assessment standards, piloted the spiritual mentor project and the college system education model, and built a new pattern of education. The employment rate of the university has increased year by year. And the initial employment rate of undergraduate graduates in the past three years is nearly 87%, higher than the average level of Henan Province. The number of graduates' satisfaction with the employment status is above 94%.

## **3.2. Explore the major and curriculum**

### **3.2.1. Clear construction ideas, strengthen the system construction**

Formulated the school "difference" discipline professional construction plan, established the "adjust professional layout, build professional cluster, speed up the construction of discipline professional system, formation is given priority to with engineering, economics, management, art, law and other multidisciplinary professional coordinated development of disciplines with distinctive discipline professional system, thus formed to meet the local development and innovation driven development demand of high-quality applied talent training system" of professional construction and development ideas.

It has successively formulated the management measures of professional construction, the setting and adjustment of undergraduate majors, the implementation plan of first-class professional construction, the construction plan of advantages and characteristics, and the selection and management measures of professional leaders, which has further strengthened the construction of majors and optimized the environment of professional construction.

### **3.2.2. Based on the demand orientation, optimize the professional layout**

Adhering to the needs of local economic and social development and the needs of talents of industrial enterprises, we will build a long-term mechanism for professional access, early warning and exit that is compatible with the development of schools. Professional setting and adjustment

actively meet the needs of industry and regional industrial structure adjustment, transformation and upgrading and strategic emerging industries, and promote the mutual support, cross-integration and coordinated development of multidisciplinary majors. First, in order to meet the needs of the emerging industries of national strategic and the key development industries in Henan Province, the emerging majors such as "robot engineering", "Intelligent Science and technology"; the second is to reform the existing majors and promote the upgrading of traditional majors; third, two art majors, digital media technology and ideological and political education, expand the adaptability of local economic and social development and new disciplines, and eliminate the old majors that do not meet the change of social demand.[3]

### **3.2.3. Curriculum construction has planning, standard, measures and effective**

Formulated the "14th five-year plan" curriculum construction plan, clear construction objectives and construction tasks, put forward the corresponding construction measures. Formulated the first-class curriculum management measures, the "235" teaching project construction implementation plan series of documents, vigorously supported and standardized the curriculum construction, and achieved good results.

### **3.2.4. Provide a sufficient number of elective courses according to the training objectives and student needs**

In order to effectively support the achievement of the training objectives, meet students' independent learning needs, teach students in accordance with their aptitude, expand students' vision and knowledge, improve students' ability and quality, and promote students' personalized development, the talent training program clearly requires that the credits of elective courses are not less than 15% of the total credits.

Students are required to take 8 credit general education elective courses and 100 general education elective courses. In addition, nearly 50 courses are designated for students to take on teaching platforms such as Smart Tree each semester. For the 2020-2021 academic year, 110 online and offline general education elective courses will be offered.

The actual number of elective courses in each major is more than twice the talent training program, and the appropriate amount of more students in the professional elective courses. Some majors have 2-3 major development directions for students to choose according to their professional development status, service orientation and characteristics.

## **3.3. Highlighting application and strengthen practice**

### **3.3.1. Strengthening the cooperation between schools and enterprises and standardizing the construction and management of the base**

The school attaches great importance to school enterprise cooperation and collaborative education. In close cooperation with enterprises and institutions, we have effectively carried out practice and training, formulated documents such as the *Measures for The Construction and Management of Off Campus Practice Bases*, and cooperated with many enterprises and institutions to build more than 180 practice and training bases that operate stably, covering all undergraduate majors.

### **3.3.2. Strictly controlling the process guidance and improving the practice teaching quality**

The school formulates opinions on further strengthening practical teaching, strengthens job responsibilities, and improves process management links. Adhering to the "double tutor" system,

according to the internship and training tasks and the specific conditions of the internship and training base units, each discipline selects and hires the technical backbone of the enterprise and the young and middle-aged teachers with rich teaching experience and strong practical ability to jointly formulate the internship and training program and the internship plan, carefully arrange the internship content, and jointly guide the whole process, to strictly assess and complete the internship record.

### **3.4. Implementation guarantee of "12345" talent training mode**

#### **3.4.1. Strengthening the central position of teaching**

The teaching work will be included in the agenda of important meetings of the Party Committee and the administration of the University, and the office meeting of the Party Committee and the president will be held to study and solve the problems in the teaching work. The leaders of the university insist on contacting the teaching units, going deep into the front line of teaching to investigate and study, and listening to lectures, to guide work and solve problems.

#### **3.4.2. Policies and measures to encourage teaching**

We will give priority to policy teaching and give preference to front-line teaching and teachers. In budget management, we should give priority to and meet teaching needs; In terms of salary, the salary of teaching posts at the same level is 10% higher than that of management posts.

#### **3.4.3. Attaching importance to the construction of teachers' teaching level**

(1) Paying attention to the teachers training of "dual qualified and dual capable" .*The Implementation Measures for Strengthening the Construction of Dual Qualified and Dual Capable Teachers* and *The Interim Measures for Teachers to Take a Temporary Post in Enterprises (Industries)* were issued to promote teachers to practice in enterprises. The "dual qualified and dual capable" teachers of professional courses accounted for 25.76%.

(2) Establishing an online and offline training system to improve teachers' teaching ability. We should adhere to the combination of "invite in" and "go out" and the combination of online and offline training to build a diversified learning platform for teachers, invite experts and professors from well-known universities at home and abroad to give academic lectures, and select young and middle-aged backbone teachers to participate in special education and teaching training outside the school, in order to build an online learning platform for teachers, purchase professional courses, and organize teachers to conduct online training; At the same time, special training will be given to teachers in the theory and practice of curriculum ideological and political education and the role transformation of college teachers under the background of educational informatization.

#### **3.4.4. Enriching teachers' and students' learning by using network teaching resources**

The school introduced the "love course" cloud platform for online teaching resource management, and provided elective courses using platforms such as "Superstar Erya" and "Wisdom Tree". The number of students using the cloud platform reached more than 30000.

We can establish a recording and broadcasting room, implement the construction of the "235 teaching project", vigorously carry out the construction of the course teaching resource library, and plan to invest 20 million yuan to build the 500 course teaching resource library in five years.

We can also actively organize online teaching, effectively ensure the effective development and stable order of teaching during the COVID-19 epidemic, and the course opening rate is 100%, in order to strengthen the construction of teaching informatization, create a smart classroom, and strive

to effectively integrate modern information technology into classroom teaching.

By exploring the "12345" talent training mode, excavating the school's school running characteristics, building specialties and curriculum settings, highlighting application, and strengthening practice, it is conducive to cultivating high-quality application-oriented talents by strengthening the teaching center position, paying attention to the construction of teachers' teaching level, and enriching the implementation guarantee of teachers' and students' learning by using network teaching resources.

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2) The major project of the 2021 university-level teaching and scientific research project, the research and practice of the characteristic talent cultivation mode of Huanghe Jiaotong University (HhjtZD2021-09).

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