“A”-type Talent Cultivation through Adhering to “Three-Three-Three” Ideas by Characteristic Universities -- With Hebei GEO University as An Example

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ABSTRACT

The industry characteristic universities are an important component in the field of higher education, which are also the main form for talent cultivation facing the industries and businesses, thereby playing an important role in accelerating the economic and technological development of various countries. Taking the industry characteristic universities as the example, combining the era development tendency, and systematically analyzing and proposing the new thoughts of school-running theory, orientation and talent cultivation of industry universities under the background of education globalization are conducive to giving play to the discipline advantages of industry characteristic universities, accelerating the scientific and technological innovation, and improving the quality of talent cultivation.

Keywords: Industry characteristic universities, School-running theory, Talent cultivation

The industry universities, born at the right moment for accelerating the establishment of industrial system and accelerating the national economic development of China, are the main form of higher education after the founding of the People’s Republic of China and the important intelligence engine to promote the rise of national power of new China, which have witnessed the reform and development of China’s economic society. For more than 60 years, the development of industry characteristic universities has experienced the transition courses of “industrialization”-“De-industrialization”-“Re-industrialization” (Wu, Guan, Zheng, 2011). The back of this transition is the helical development track of higher education in China from quality to scale and back to quality. With the transition of school and economic society development, some universities have obtained the great-leap-forward development by catching the opportunity to run schools with characteristics through integrated school running, however, some universities have several deficiencies of degenerated characteristics due to pursuing the scales; blind setup for specialties and disciplines, thereby falling behind the demands of economic development; and imbalanced talent supply-demand structure and widespread phenomena of employment difficulty etc. (Wang, 2016). Meanwhile, the talent cultivation mode is similar to regular universities, the innovation capabilities and practical skills of cultivated talents are deficient (Feng et al 2012); and a series of challenges of lack of open, diversified, and inclusive genes etc. also restrict the development of some universities towards the future. Facing the past or undergoing challenges and transformations of industry characteristic universities, it is necessary to stand at the height of school-running history and era to think seriously about the value orientation, school-running theory, and talent cultivation orientation.
of industry characteristic universities in school-running activities from the perspective of social progress and talent development demands, thereby making the industry characteristic universities show the new spirits of the times again. The author has taken Hebei GEO University as an example, discussing the deep thinking of industry characteristic universities in aspects of school development orientation, comprehensive reform, and education practices etc. from various levels, so as to finally put forward the practical objective of considering “person” as the foothold, and hope to provide the talent cultivation work in industry characteristic academies with beneficial enlightenment.

I. “THREE-THREE-THREE” THEORY of HEBEI GEO UNIVERSITY

The predecessor of Hebei GEO University is the Ministry of Geology of Xuanhua School of Geosciences organized by Ministry of Geology and Mineral Resources of P.R.China, which was one of five academies directly subordinated to Ministry of Geology. The school was upgraded to Hebei GEO University in 1971, and was relocated to Shijiazhuang City, the provincial capital of Hebei Province in 1985. The school management system was changed from under the management of Ministry of Land and Resources to central and local joint construction in 2000, with under the management of Hebei Province as the majority. The school became the university jointly constructed by People’s Government of Hebei Province and Ministry of Land and Resources in 2016, which is now the key construction backbone university in Hebei Province. The school became the construction unit for doctorate authorization and project approval in 2016. In the opening year of the “13th Five-year Plan”, the school is earnestly summarizing the school-running history and systematically studying and judging the future development demands, which has determined the development path of an university with distinct industry characteristics towards the future and actively put it into practice.

1. Adhere to Three Development Orientation.

1.1 Adhere to development orientation with industry characteristics as the foundation.

Jared Cohon, former principal of Carnegie Mellon University of the U.S., used to say: “The key of formulating the university strategic objectives is to capturing your own orientation.” (Pan, 2005) Under the influence of traditional management mode, the industry universities are frequently easy to be influenced by the overall situation of industry in their development processes, ignoring their own orientation of development vision as the school-running subject. As for the industry characteristic universities, the industry characteristics are the characteristics faced towards the school services externally, which are also the connotative characteristics integrating the disciplines and specialties, school-running cultures, and historical accumulations of schools internally. In the increasingly fierce competition of international and domestic higher education, the industry characteristics are the genetic advantage of an industry university accumulated from its school-running history in a manner of speaking. In the process of participating in the competition of higher education, the industry academies shall stick to the advantages of giving play to their own industry characteristics, seek the dislocation development with other universities according to differential ideas, and aim at the intersection area and vacuum area of talent demands, which will be the breakthrough point for the development of industry characteristic academies in the future. As the academies with industry characteristics, they will have the foundation and the space, so as to realize their objectives from being characteristic to being strong, the characteristics will prevail. The establishment of school development orientation not only shall focus on the traditional advantages of school-running characteristics, but also shall combine the demands of industry and economic society development, so as to make the advantageous characteristics develop in the inheritance, thereby determining the school-running orientation towards the future development. Taking Hebei GEO University as an example, specifically, a two-dimension development orientation coordinate shall be determined.
One-dimension is to determine the school-running level orientation without blindly seeking the high and complete level, so as to strengthen the characteristic development and dislocation development. Two-dimension is to determine the discipline and specialty orientation, which is to accurately capture the specialty development field, thereby doing some things and leaving some things undone. Based on it, under the circumstance of full demonstration, the school has determined the development orientation of constructing the “application and research university with geoscience and economic management science as the core”.

1.2 Construct the structure orientation of concentric multi-sphere discipline and specialty layout with industry characteristics.

As the multidisciplinary universities with industry background, two aspects shall be centered when conducting the top-level design on disciplines and specialties. First, the “strong foundation” shall be completed, second, the “ecological development” shall be grasped. The “strong foundation” is to persist in perfecting the traditional advantageous disciplines and specialties, enhance the sense of urgency in transforming and upgrading the traditional advantageous disciplines, and continuously promote the construction level and construction connotation of traditional disciplines, so as to make them become the core and soul of school-running activities. The “ecological development” is to aim at the requirements of national and social development in the future, tightly center on traditional advantageous disciplines and specialties, and strengthen the intersection and fusion of disciplines, so as to cultivate the ecological circle for disciplines and specialties with characteristic supporting, advantage complementarity, and joint promotions. Starting from these two aspects, the industry characteristic academies can perfectly avoid the homogenization orientation, so as to greatly show characteristics and form new innovation points even when constructing the same discipline and specialty, and the cultivated talents also possess stronger adaptive capabilities and development potentials. Based on the above considerations, Hebei GEO University has determined two discipline development cores of geoscience and management advantageous discipline centering on the traditional advantageous disciplines of the school, which as continuously summarized new discipline and specialty fields of marine geology, resource economy, water resource environment, and geothermal resource development and utilization etc. through relying on the discipline core, thereby gradually formed the concentric multi-sphere discipline and specialty layout with harmony and joint promotion of multiple disciplines.

1.3 Adhere to talent cultivation orientation of student first.

Dewey considered that “an educational aim must be founded upon the intrinsic activities and needs of the given individual to be educated” in Democracy and Education (Dewey, 2001), which has reflected that the aim of education is to take the students as the main part, thereby forming the value evaluation in the inside of individual students through practices. Taking the students as the main part is not to develop the education activities through blindly obeying the students’ self-value judgement. The school shall be targeted to guide the students, stimulating their subjective initiatives, so as to finally form the self-development in accordance with the education experiences accumulated by history development and students’ different natural instincts and gifts. It cannot be denied that, as university students, their teaching experiences and congenital quality of individuals will exert the influences to their study aims during university. Therefore, in addition to the traditional requirements of teachers on “teaching students in accordance of their aptitude” in the process of talent cultivation, the students shall be provided with more platforms for individuality development. As the universities with distinct industry characteristics, the cultivated talents always provide their services facing the industry, it is easy to frequently ignore the individualized development of students in the process of talent cultivation. Therefore, the industry characteristic universities need to adhere to taking the student development as the main part more in the process of talent cultivation, stick to the accumulation of characteristic knowledge on knowledge impartment,
and persist in open, diversified, and innovative thinking training on thinking model cultivation, thereby laying the good specialty foundation for students, and cultivating their stronger selective power towards the future. For a long time, Hebei GEO University has insisted on establishing the talent cultivation orientation starting from the actual and present facts of students all the time. However, as an industry characteristic university, China GEO University has been partial to cultivating the academic research-type talents, the orientation of talents cultivated by our school has been high-end application-type talents with engineers, lawyers, and accountants as the majority with the capabilities of deep thinking, research, innovation, and knowledge transformation to their occupations. In addition, in order to satisfy the students’ requirements of diversified development, the school has also actively promoted the innovation and entrepreneurship education, encouraging the students to promote the entrepreneurship by innovation, so as to realize greater values of life. Through the deep practices in innovation and entrepreneurship education, the school has been rates as one of the Innovation and Entrepreneurship Demonstration Universities in Hebei Province.

2. Deepen Comprehensive Reform of Three Levels

2.1 Take the school’s comprehensive reform as the lead

The only way to realize the governance capabilities and modernization of governance capabilities of universities is to promote their comprehensive reform. As one of the largest social organizations in the current society, the universities are facing the challenges of continuous changes of internal and external development environments, and more and more complicated deep conflicts and problems etc. In order to explode the bottlenecks and barriers in reform and development and solve the deep problems that influence the development of school, it is very difficult to be successful by traditional reform ideas of treating the head when the head aches and treating the foot when the foot aches. The system research and comprehensive measures from perspective of school shall be utilized to promote the reform proceeding with the most fundamental system and mechanism, so as to gradually construct the governance pattern of benign interaction and joint development among the country, society, teachers, and students. Under the influences of factors of school-running histories, discipline and specialty characteristics, school-running scales, and regional environments of all the schools, the routes and contents for universities to promote the comprehensive reform shall also be substantially different, which shall be scientifically promoted and implemented based on respecting the school-running foundations and development orientations. By taking Hebei GEO University as an example, the school is oriented as the application and research-type University with the talent cultivation as the core work of school-running activities. Through centering on the core of talent cultivation, on the one hand, the school shall further determine the boundary of administrative power and academic power, discover the list system of each department’s power and responsibilities, systematically promote the reform work of school’s division system, give the school-running entities greater academic self-determination, and construct the scientific and high-efficient modern governance system with clear rights and liabilities. On the other hand, the school shall build the soft environment to the benefit of school development, proceed with managing the university by law and perfecting the system and mechanism, practically protect and stimulate the enthusiasm of each participant in school-running activities, further strengthen the cultural development through centering on the “spirit of geology”, and build the colorful cultural environment, so as to realize the culture education and environment education.

2.2 Take the full credit system reform as the principal line

Since The Decision on Reform of the Education System by the CPC Central Committee proposed to “reduce the required courses, increase the optional course, and carry out the credit system and dual-degree system” in 1985, China’s higher education has spent more than 30 years on the road probing into the credit system. However, under the restriction of differences of various school’s
development levels, the credit system also has different forms of expression among different universities. Particularly, the universities in some places are restricted by the influences of school-running resources and policy environment, the full credit system hasn’t been effectively implemented, which is still roundabout in the process of teaching process improvement including credit system and scholastic year system, as well as elective system and class teaching system etc. Under the general background of continuously diversified and humanized education supply, there are still the phenomenon of “big-pot distribution system” under the planning between the “demand side” of students and “supply side” of school, the bonus on reform of credit system has not been truly released yet. Therefore, the important guarantee for releasing the school-running vitality and promoting the overall school-running level is to systematically push the reform of full credit system, actively transform the school governance and education teaching ideas, establish and perfect the integrated system and mechanism related to assets management, teaching running, and performance evaluation etc., and open up the distance of “last kilometer” between students and teachers by information means.

2.3 Take the talent cultivation mode reform as the foothold

The talent cultivation mode is the action guidance for us to cultivate what kind of people and how to cultivate people, which plays the baton role in the process of talent cultivation (Chen, 2009). With the acceleration iteration of information technological revolution and profound changes of international and domestic situations, and in the face of the current tendency of the country on intensively and economically utilizing the resources, and increasingly improved requirements of ecological civilization construction, the demands of society on innovation-type and versatile talents have been continuously increased. On the other hand, with the popularization of mobile internet, continuous enrichment of various education resources, the core of school education also has been quietly changed, of which the education method has been transformed from the core of “teaching” by traditional teachers to the core of “learning” by students. The impartment of knowledge has been transformed from teachers’ one-way impartment to students’ self-aid learning, diversified learning, and critical learning. Facing these new challenges, Hebei GEO University has continuously enriched the characteristic connotation for talent cultivation of “disciplinary interactivity between geology and economics, and combination of technology and management”, gradually transiting from the traditional knowledge impartment to the talent cultivation mode with value cultivation and teaching students in accordance of their aptitude as the core, so as to form the three-dimensional integrated talent cultivation mode of “general knowledge foundation + professional literacy + individuality development” step by step. In addition to the reform measures of systematically promoting the amendment of talent cultivation plan and intensifying the construction of demonstration courses etc. from the perspective of school, the basic-level innovation experimental units of “experimental class of computer science and technology specialty”, “reform in foreign language teaching”, and “auditorium of geology” etc. have also actively promoted the reform of overall talent cultivation mode of the school from bottom to top.

3. Make Great Efforts to Three Collaborations for Education

3.1 International Collaboration.

The international collaboration of school education is an irresistible trend of globalization. Now the universities in China are more deeply blending in the interaction with the world higher education. The local universities with industry characteristics not only shall pay attention to study the advanced school-running experiences of foreign universities, but also shall attach more importance to giving play to their own characteristic advantages, determining the emphasis points and realizing the mutual compensation of advantages in cooperation through giving play to the discipline and
specialty advantages, region advantages, and policy advantages, etc., so as to more effectively participate in the cooperation of national strategy and international collaboration. The location of Hebei GEO University is Hebei Province, which is an important component of “Belt and Road” strategy serving the Central and eastern Europe. Our school has taken the characteristic advantages of traditional geoscience and discipline of economic management as the link, giving full play to advantages of science, technology and talents, so as to actively serve the national strategy of “One Belt and One Road”. Taking the “Czech Republic Research Center” established by the school as an example, it has successfully held two sessions of Sino-Czech Forum one after another, thereby giving good play to platform and think tank. Meanwhile, the school has also strengthened the exchange and cooperation with foreign high-level universities, which has successively carried out the cooperative school-running projects in aspects of talent cultivation on economic management and design of gem and jade etc. with universities of Ulster University of UK and Wonkwang University of South Korea etc.

### 3.2 Province and Ministry Collaboration.

The universities co-constructed by province and ministry, especially the industry characteristic universities, shall accurately grasp the demands of industry and region development, give full play to province and ministry collaboration, and carry out the deep cooperation in aspects of industry-university-research cooperation and resource sharing etc., which is related to the sound development of universities themselves and influences the reform and innovation of science and technology, culture, economic and social development in their locations. With the help of platform co-constructed by province and ministry, the school shall initiativly link up the specialty projects of region and industry, and actively participate in high-quality talent cultivation for local development, which is able to promote the school to further determine its development orientation in the works of talent cultivation, scientific research, and social services etc. Meanwhile, with the help of resource advantages of platform co-constructed by province and ministry, the school is able to fight for more supports in aspects of co-cultivation of talents, high-end talent introduction, construction of important scientific research innovation platform, and school infrastructure construction etc., thereby generating more influencing achievements. Since Hebei GEO University became the university co-constructed by Hebei Province and Ministry of Land and Resources in 2013, it has continuously strengthened the exchanges and cooperation with both parties of province and ministry to actively giving play to platform advantages, which has determined multiple collaboration platforms in advantageous characteristic fields of sustainable development and utilization of water resources, planning of regional land resources, transformation development of resource-based enterprises, and strategic research on regional human resources etc.in Hebei Province, and openly attracted the high-level research institutions of Chinese Academy of Sciences and Chinese Academy of Geological Sciences etc.to participate jointly. More than that, the school has given full play to intelligence advantages in recent years, actively promoting services to the quality of internal talents of region and industry, which has successively organized to implement and train more than 100,000 person times. Through the benign interaction in co-construction of province and ministry, in addition to actively serving the industry and locality, the school has made great promotion in its own school-running ideas and school-running level.

### 3.3 Supply and Demand Collaboration.

The relation between supply and demand is the fundamental relation in the process of education to form the interaction behaviors, and evaluation on achievement degree of supply and demand objective is one of the important evaluation standards to measure the talent cultivation effects. The whole process of accelerating the benign interaction of supply and demand parties and reacting upon the talent cultivation is also the necessary link to improve the talent cultivation quality and form the “Deming circle” of whole process of talent cultivation. With the diversification of talent
cultivation in universities and pluralism of students’ future developments, the connotation of “supply and demand” also has profound change, which is mainly reflected as two forms. The first form is the relation between supply and demand of school and employers, which is the relation between supply demand considered in most traditional concepts. The school shall know what kind of people do the employers need and cultivate the people for them. The supply and demand collaboration is also the collaboration between employers and talent cultivation unit. The second form is the relation between school and students, which has gradually become the important form for relation between supply and demand due to the influences of continuously improved entrepreneurship rates of university students and continuously transformed career modes etc. The school shall consider in the talent cultivation process that how to continuously innovate in future learning and working, how to better adapt to the information-based society with high-speed development, and how to utilize the possessed knowledge to conduct the knowledge transformation etc. for the students. Therefore, in addition to continuously complete the traditional supply and demand collaboration with strengthening the practical ability cultivation and adjusting the specialty structure according to employment market etc as the main forms, the school shall further promote the collaborative interaction between the school and students at school or graduates, listening to the opinions of graduates or schoolfellows on cultivation work, and encouraging the students to participate in the process of talent cultivation, which will effectively perfect the guarantee mechanism of talent cultivation quality. For this purpose Hebei GEO University has further expanded and intensified the collaboration degree of students at school and schoolfellows, which has broadened the time limit for cultivation quality investigation, paid more attention to long-term developments of students, promoted the participation degree of students as one of main parts of talent cultivation, and intensified the talent cultivation ideas with the student development as the center through convening the schoolfellow forums with classified categories, classified territories, and classified industries.

II. Cultivate “A”-type Talents

The above is the fundamental practices of “Three-Three-Three” ideas of Hebei GEO University, which is also the roadmap for school’s macro talent cultivation work. In order to realize the final objective of talent cultivation, the quality of talent cultivation can be evaluated form the following three aspects from the perspective of individual person.

First, the natural attributes of students are strengthened. The human’s natural attributes are different from the fundamental attributes of other animals, which is firstly reflected in physiology, and secondly reflected in cognition. In general, humans are the intelligent animals with free hands. Therefore, the formation of natural attributes of students shall also proceed with these two aspects. On the one hand, the school shall strength their physiques, which shall pay attention to the improvement of students’ physical qualities in addition to imparting the knowledge, thereby tamping the foundation for their future learning, working, and living. On the other hand, the school shall promote the students’ cognitive levels and perfect their knowledge structure, which shall make the students possess the compound knowledge structure to be adapted to the demands of rapid change of society, thereby constructing the compound course system for students based on major-minor specialties from the perspective of talent cultivation.

Second, the social attributes of students are perfected. In different societies, people’s demands and standards are also different, and there’re no people and education activities being separated from the society in the world. For this purpose, the people cultivated by us shall also pay attention to the perfection of sociality. We shall cultivate the students with the values, view of law, morality, and view of practice etc. according with the requirements of the times and society, so as to make them become the qualified social citizens and excellent social constructors.
Third, the spiritual attributes of students are enriched. We shall actively impart the thinking modes of pondering over and solving the problems to the students in addition to imparting the knowledge, we shall also make the students learn the dialectical thinking and critical thinking except the professional logical thinking, so as to make them possess the metal model for doing their jobs well, solving the realistic problems well, and overcoming the practical difficulties, which will be the precious spiritual wealth for the students to embrace the future challenges.

The above-mentioned three aspects are the fundamental elements an intact person shall possess. If a person possesses the above three elements, the capital letter “A” will be formed. And this letter “A” is just like a Chinese character of “人 (person)” in capital, representing the final objective of our education, which is also the final destination for us to running the school.

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