Suggestions for the Government about Integrating Education and Industry—as the Example of Creative Industry of Tianjin

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Abstract. In today’s world, Economic competition mainly in the manufacturing sector, while the manufacturing sector is extremely short of elites in China. To solve this issue, higher education explores the mode of talent training and makes reform of it actively. Integrate industry and education to train highly skilled professionals has become a consensus. This research is based on the achievement and problems about promoting integration of industry and education in creative industry in Tianjin. It puts forward some suggestions to the government about promoting integration of industry and education. Suggestions have 4 aspects including policies and legislation, overall planning, funding guide and cultural connotation. They could produce an effective mechanism of integrating education and industry for the government.

Background Information

After the 2008 world financial crisis, the world regained the emphasis on real economy and did their utmost to develop the real economy. The manufacturing industry is the core of the real economy. In such a new economic competition, China's economy has a serious shortage, which is mainly reflected in the manufacturing industry is relatively backward. The main reason of this is not just backward in technology, but lack of innovation. Therefore, to solve the current Chinese economy problems of less competitive, large energy consumption, low value-added and so on, an important way is to develop the creative industries to enhance the cultural content of our manufacturing industry and embed creative elements in the manufacturing value chain. These will promote development and integration of creative industries and manufacturing to achieve the transformation and upgrade of the manufacturing sector. To this end, in 2014, the State Council issued “Opinions on Promoting the development and integration of cultural innovation, design services and related industries” (China issued [2014] 10th version issued). Document states that until 2020, the leading industry role of the cultural innovation and design services are important. A comprehensive, high level and wide framework of related industries has been set up. Culture-related industries were improved, and trained a great deal of high-quality personnel. Provinces and municipalities have also issued relevant policies and regulations. For example, in Tianjin, in “the Twelfth Five-Year Plan of Tianjin Economic and Social Development” and “the Thirteenth Five-Year Plan of Tianjin Economic and Social Development” have also stated it needs to develop creative industries in various aspects. Especially in “the Twelfth Five-Year Plan of Tianjin Economic and Social Development”, clearly states “Speed up in the characteristic and professional creative industrial park construction. Vigorously expand in emerging services markets and introduce and establish well-known brands to strengthen emerging services markets as soon as possible.” [1]

Development of creative industries needs relevant high-quality professionals and technical personnel. Training high-quality talent is the duty of ordinary universities and vocational colleges. In this context, universities and higher vocational colleges should adjust education policy to suit the national strategies of innovation-driven, economic transformation and upgrading. According to the national “Opinions on Promoting the development and integration of cultural innovation, design services and related industries”, “Chinese Manufacture 2025”, “Internet Plus” and other new
requirements for vocational education development, universities and higher vocational colleges need nurture high-quality skilled for national industry, especially the existing pillar local industries and industrial development strategy. This requires all colleges and universities, especially higher vocational colleges to establish a mechanism for integrating of industry and education, eliminating the situation where education or industry develops alone.

Tianjin Promotes the Practice of Integrating Education and Industry

At present, the growth momentum of creative industries has become stronger and stronger. China's creative industries maintain an annual growth rate of more than 10%. Amount increases 16.6% annually, higher than the GDP growth rate over the same period. With the national development strategies about integration of Beijing, Tianjin and Hebei Province formulated and implemented, Tianjin economic development has gained new impetus and new objectives. “The Twelfth Tianjin Development Five-Year Plan” makes developing the creative industries as an important strategic objective. “During the Eleventh Five-Year strategies, creative industry output value increases at the rate of 20% annually. In 2011, creative industries annual output value reached nearly 70 billion yuan, accounting for about 7% of the city's GDP. Tianjin has award more than 20 creative industry park.”[2] Tianjin creative industry cluster development pattern has primarily shaped.

However, creative industry related professional and skilled personnel shortage is still serious. In order to meet the pillar industry of the local area and new strategic industry development talents requirements, it’s important to nurture high-quality technical personnel for the region and even the country's creative design industry development. As the cradle of talents, universities must face and solve the problem, which deserve further study and reflection. Higher vocational colleges should also “integrate into the regional economic and social development, complete docking with local innovation elements resources, complete docking with economic development zone and creative industry cluster, complete docking with talents training for industry and enterprise. Build advanced technology transfer centers, science and technology service center and technology innovation base that have regional influence”[3] as ordinary universities. “To eliminate the local (industry) shortage of high-quality technical personnel requirements is the social duty of vocational education”[4]. In recent years, with advantages of the strong support of the local government, a number of colleges and universities based on the economy of service industry to explored integration of industry and education and they also established students Technology Center and so on. Vocational colleges also set up new majors that society is lack of and explore the modern master and apprentice relationship actively.

This paper uses the example of Tianjin Vocational Institute to illustrate the practice of colleges and universities to promote the integration of industry and education. Tianjin Vocational Institute is a subjection vocational college of Tianjin City Board of Education. It’s one of the first set national demonstration vocational school. In recent years, the school actively explored ways and mechanisms of integration of industry and education and gained a big success. For example, it set up a Tianjin Packaging Technology Engineering Center, four national and municipal skill master studio and other key projects. It also promoted integrating the “industry, education, research, use” development vigorously. Meanwhile, the school proposed school development ideas: integrate industry and education deeply, enhance school-enterprise cooperation, combine learning with practice. Focus on professional ability to nurture talents. Rely on government, industry, enterprise and school cooperation to build an innovation base with set of teaching, scientific research, production and social services.

In terms of promoting the integration of production with teaching, Tianjin Vocational Institute’s results include:

1. Constructed a public open creative design skills training centers of 16,000 square meters; built a “two service platform”, one is training information sharing service platform, another is “four
Chuang” (thought, innovation, manufacture, entrepreneurship) education sharing platform. Integrated “eight creative design modular training room,” which are packaging planning and design, eyeglasses design, treasure identification and processing, product art design, environmental design, visual creative design, digital animation culture, teacher studio. These developed virtual simulation training systems and training materials and other teaching resources. It integrated “new industry technique standard”, “teaching and business training”, “technical skills training” and “innovation education resources development” four functions in one.

2. Innovated educational ideas: The school needs to meet market requirements, and take the road of combining industry and research. Cooperated with hundreds of domestic and foreign enterprises, such as the Civil Affairs Bureau of Tianjin, tariff-free zone, development zone, Huayuan Hi-Tech Park, Beichen Science and Technology Park, Tianjin Binhai New Area, Tianjin beadhouse, Tianjin FAW Toyota Motor Co. and Japan Nidek Co. Innovated and practiced several work-study combination training modes.

Over the years, Tianjin Vocational Institute has nurtured a large number of qualified graduates. They are fully affirmed and praised by employers. Students’ enrollment has been extended to 30 provinces. Graduate employment rate has kept the forefront of colleges. In 2012, 2013, 2014, respectively, an employment rate reached 97.74 percent, 97.33 percent, 97.94 percent.

The practice of skilled personnel training in domestic and overseas has proved that Integration of industry and education and school-enterprise cooperation is an effective way to train high-tech talents. “What kind of person to cultivate, how to cultivate talents, should be determined by the demand side (enterprise, industry) and supply side (school)” [6]. The real integration of industry and education contains three aspects of deeper integration between industry and school (or society): the integration of creative talent cultivation and creative design production, the integration of creative education and creative enterprise incubation, the integration of creative product and practical training teaching-carrier. In China's case, however, lacking of beneficial company culture and the social atmosphere, the implementation of the mechanism that nurture talents by Integration of industry and education faces many practical problems. To implement the Integration of industry and education needs multi-party cooperation between society, enterprises and schools. Currently, schools have already begun to head for society and combined with the enterprise actively. The fundamental problem is the lack of social support and slender social responsibility. But in this five levels: government, industry, enterprises, schools, students, that involved in school-enterprise cooperation, the most difficult part is to arouse the initiative of enterprises. For enterprise subject vacancy and lack of participation, it's common to see that school-enterprise cooperation education tend to an imbalance situation. Vocational colleges not only have a particularly intense demand of researching in Integration of industry and education, but also want to nurture talents with industry. But from the point of economy, industrial transformation and upgrading, establishing innovation drive system of modern industry, the demand for developing innovative technical skills talents also push enterprise a transmission reversely.

Suggestions for Promoting the Integration of Industry and Education

Practice shows that the implement of school-enterprise cooperation and Integration of industry and education are multipartite cooperation. So in the process of discussing the measures and schemes for integration of industry and education, we should draw lessons from foreign countries, like Germany and pay more attention to the mechanism, mode and quality of the cooperation. A more important factor is that government should provide proper policy support and leadership. “It’s critical to make the work done on reality and break away from bureaucracy. Find the very problems through practice and economic society development, based on which we can bring up some related suggestions and even find some cases through practice.” [7] This article makes the following proposals on how to promote school-enterprise cooperation deeper and propel the creative Integration of industry and education in Tianjin vigorously for government.
1. Under the school-enterprise cooperation national laws and regulations, local legislation and policy framework, detail classification of vocational education school’s school-enterprise cooperation. Classify school enterprise cooperation and figure out the policy demands of different types of school-enterprise cooperation mode, according to the participants, the type of the human capital enterprises relies on, the enterprise production mode and the professional category, which are involved in the school-enterprise cooperation.

2. On the basis of detailed classification, make an overall planning and provide targeted policy support and protection. In accordance with the characteristics of creative industry, barriers between administrative departments should be broken down and coordination and interaction between which will be explored. Then integrate schools, businesses, research institutes and many other subjects and various resources, promote the school-enterprise cooperation.

3. Establish a fund-leading mechanism, provide policy support and funds guarantee. Provide specific fund and subsidy in forms of such as actualization funds, specific subsidies, purchase production, tax exemptions and reductions and so on, through which we can direct the enterprise to discover and develop cooperation interests in common.

4. Highlight the characteristics of cultural creativity, play the role of industrial organization and creative industry parks, dig into local cultural and industry characteristics deeply, gather industry human power, resources and capital advantage. Thus, an innovative entrepreneurial platform that personnel engaged mutually, information integrated, communication-and-dialogue sufficient, and also concentrate government, enterprise, investment and financial institutions, can be established.

References
[1] “The Twelfth Five-Year Plan of Tianjin Economic and Social Development”.