Research on Location Function of Local Applied Universities from the Perspective of Industry and Education

Yuanyuan Wang
Ideological and Political Department, Xi’an Peihua University, Xi’an, 710125, China
64789178@qq.com

Keywords: Integration of production and education; Applied University; location function

Abstract. This paper probes into the location function of local applied universities, and puts forward the viewpoint that local colleges and universities should establish an applied technical university with the orientation of "the combination of undergraduate education and vocational skills training". The paper puts forward that the transformation and development of local colleges and universities should take the road of the integration of higher education and vocational education. Deepening the integration of industry and education and school-enterprise cooperation is the urgent requirement of regional economic and social development. We should add human capital, the most important innovation factor, to the industrial chain. Upgrading the process of personnel training through the integration of production and education, and serving the local economy.

All countries attach great importance to the cultivation of applied technological innovative talents. In 1850s, the land grant colleges in the United States and the city schools in England had the characteristics of applied universities. In the 1960s and 1970s, Fachhochschule (FH) University of Applied Science and Technology was established in Germany, which is based on applied research and development and serves the regional economy. Vocational education in Germany is famous for its dual system of education. Since 1997, Taiwan has established a higher technical vocational education system consisting of specialist, undergraduate, master's and doctoral degrees. Its main institutions are technical colleges and universities of science and technology.

By the end of 2016, there were 2852 colleges and universities in China, with the gross enrollment rate of higher education reaching 40%. The whole higher education ecosystem has undergone tremendous changes since 1999. From the perspective of school types, by the end of 2016, Local Newly-built Undergraduate Colleges and universities accounted for more than 50% of the national average undergraduate colleges and universities, and became the main force in the process of popularization of higher education in China, occupying the "half of the higher education ecosystem". From the point of view of orientation and function, the type of university with single function no longer exists, and then emerges the comprehensive, diversified and multi-functional university. From the perspective of talent training type, the narrow mode of training traditional elite talents has gradually changed to cultivate diversified and multi-disciplinary application talents to adapt to the economic and social development. It should be said that these changes in the higher education ecosystem are the result of the interaction of external variables such as political, economic and social environment and internal variables of the higher education system in the last 15 years. However, there has been a lot of criticism about the convergence of locally-built undergraduate universities orientation and the homogenization of competition. In the post-popularization era of higher education, how to serve the regional economic development, excavate new regional business forms, and actively transform to adapt to regional talent training has become an urgent problem for Newly-established Local universities.

Although there are many research topics and papers on the application-oriented undergraduate education in China in recent years, most of them discuss the application-oriented undergraduate education from the perspective of the theory of classification development of higher education. It is a new problem to be solved in this paper to speed up the establishment of the development mechanism of the integration of production and education and the cooperation between schools and enterprises, to construct the integration development of higher education and vocational education, and to study the location function and development of local applied universities from the
perspective of the development mechanism of the deep integration of schools and enterprises.

The location Function of Application-oriented Universities Based on the Deduction of Talent Cultivation Types.

In the orientation of talent cultivation, the interaction between regional economy and society is more obvious. In professional settings, applied universities are more flexible. It can quickly capture the needs of the market for talents and set up characteristic specialties. From the curriculum and application services, the application content of applied university pays more attention to the combination with production practice, application mode and application methods are more flexible and diverse, both theoretical study and practical application, can be a good combination of production, learning and research. Based on the perspective of deep integration of production and teaching, the research on the location function of applied universities has a strong practical significance for the transformation and development of local colleges and universities, and also has a reference value for the relevant government departments to regulate the healthy development of local colleges and universities.

Local colleges and universities are facing the problem of how to transform and develop, and the development of new industries and new technologies brings opportunities and challenges. Challenge refers to the discipline structure, professional structure, personnel training model is still difficult to meet the development of new industries and new technologies. Opportunity refers to the possibility of the rise of a different army if a school can seize the opportunity of the development of new industries and new technologies and speed up the establishment of the development mechanism of integration of production and education and school-enterprise cooperation. From the perspective of school-enterprise integration, this paper studies the training system of applied innovative talents and applied technical universities in local universities, and constructs the location function of local universities from a new perspective.

Study the New Trend of Regional Industry and Industry to Train Scarce Talents and Serve Local Development.

American management scientist Chandler has a very famous viewpoint - "structure follows strategy change". Organizations need corresponding organizational structure to match each stage of strategic development. That is to say, when the types and goals of running a university change, the organizational structure of the university should also be changed accordingly. Corresponding subject and specialty orientation, career orientation, application orientation, talent training orientation and Teacher Rank orientation should also be changed.

A. Application-oriented Universities are the Key Force in the Training of Local New Formats. Application-oriented university is not an isolated system. The construction of schools will inevitably have an interactive relationship with local governments and industry enterprises. Especially when there is only one or several ordinary undergraduate universities in the region, the advantages of location can be more prominent, and the chain effect of local axis organizations should be brought into play. The cultivation of talents should be oriented to the application-oriented, serve the local economy as the leading factor, actively mobilize the cooperation resources between the government, universities and enterprises, train the "marketable" applied talents needed in production and management, conduct applied scientific research and transformation of achievements, and form a "local government-applied university-local enterprise" circulation system. The integration of production and education has always played an important role in the cultivation of local talents with new formats, and has trained a large number of high-quality talents with new formats.

B. Application-oriented Universities can Give Full Play to the Advantage of Late Development. At present, China's local undergraduate universities are at the critical stage of differentiation, development and transformation. Some colleges and universities with long academic history and mature disciplines and majors are developing into comprehensive universities.
Newly-built local undergraduate universities with short academic history have completed the preparation of basic conditions for running schools and gradually developed to qualified undergraduate universities. Under the background of vigorously developing modern vocational education put forward by the state, guiding some local undergraduate universities to transform into applied universities is an important policy direction. This is undoubtedly a good opportunity for local undergraduate universities, especially newly-built local undergraduate universities, to develop rapidly.

C. Application-oriented Universities should become the Main Force of Local Economic Services. The development of applied universities is inseparable from the support of local governments and industries. On the other hand, applied universities have made special contributions to the development of local economy. Applied universities integrate into the local society from the perspectives of school orientation, personnel training, scientific research and serving the local society. Serving the local economy from the aspects of personnel training, science and technology promotion and cultural transmission is the main force of local economic services. In addition, the application-oriented universities are most sensitive to the new economic and new business forms in the process of close cooperation with the local economy and society, and can quickly respond to and respond to the development of the new economic and new business forms.

Applied Talents Education System in Higher Education

In order to cultivate talents to meet the industrial 4.0 and the 2025 strategy of Made in China, the application-oriented talents cultivation in higher education should establish the mechanism of classification and collaborative education in Colleges and universities, deepen the training mode of school-enterprise cooperation, strengthen international cooperation in talent cultivation in Colleges and universities, and enrich the mechanism of higher education by relying on information technology.

A. Establishing Classification and Collaborative Education Mechanism in Colleges and Universities. The reason why Germany took the lead in putting forward and leading industrial 4.0 lies not only on the accumulation of Germany's exquisite industrial technology and advanced science and technology, but also on German higher education and vocational education, which has provided Germany with a large number of high-quality scientific research personnel and professional skilled workers. Drawing lessons from the experience of German higher education system, it is necessary for China to establish a mechanism for classifying and collaborating higher education. On the one hand, it is necessary to establish a mechanism for classifying higher education, carry out classified reforms in accordance with comprehensive and applied universities, and establish evaluation mechanisms for different colleges and universities according to their classification, so as to promote the cultivation of talents in higher education. On the other hand, we should set up the mechanism of collaborative education, establish and perfect the scientific evaluation mechanism of students credit, establish the mechanism of credit accumulation and credit mutual recognition between different learning systems and disciplines, promote the mobility of students in different training systems, and improve the comprehensiveness of higher education personnel training.

B. Deepening the Personnel Training Mode of School Enterprise Cooperation. Industry 4.0 and Made in China 2025 strategy have formed the demand of higher education to deepen the cultivation of engineering and technical personnel. For engineering and technical personnel, the cultivation and promotion of practical ability is the starting point and foothold of higher education personnel training. Therefore, higher education must deepen the cooperation between colleges and enterprises, enrich the mode of personnel training, improve the practical ability of higher education personnel training, and establish the mode of student cooperation between higher education and enterprises. Firstly, the higher education institutions and enterprises should select the cooperators rationally with the strategy of realizing complementary resources and bringing synergy into play, so as to improve the efficiency and efficiency of students cooperation between them. Secondly, in the aspect of student training mode, the "order-based" training mode is the main training mode, so as to
achieve an effective link between student training and student employment, which not only improves the effectiveness of higher education, but also reduces the cost of enterprise human resources secondary training and development. Finally, a joint training platform for students can be built, such as the establishment of enterprise training base for students and other forms of school-enterprise common platform for student cooperation.

C. Strengthening International Cooperation in Talent Training in Universities. The integration of the world economy has led to the internationalization of educational activities. With China becoming a reserve member of the Washington Convention in 2013 as the symbol, the internationalization of engineering education has taken a substantial step, and the research of higher engineering education has entered a new active stage. Especially with the acceleration of the pace of "introducing" and "going out" of Chinese enterprises, new requirements have been put forward for the internationalization of higher education. In order to support the industrial 4.0 and the talent demand of the Made in China 2025 strategy, higher education should deepen the internationalization of talent cultivation form to promote the internationalization of talent cultivation. For example, universities should actively strengthen the cooperative relationship with foreign universities and well-known enterprises in the process of training engineering scientific and technological talents, and strengthen the international cooperation in training university talents through the introduction of teachers and the establishment of educational platforms.

D. Relying on Information Technology to Enrich the Mechanism of Higher Education. With the rapid development of information technology and the continuous improvement of network popularity, especially the increasing popularity of various mobile intelligent terminal applications, higher education platform must be based on the traditional classroom education platform, matching the development of information technology to enrich the education platform. The form of higher education should also enrich the channel mechanism of higher education on the basis of traditional classroom preaching. On the one hand, colleges and universities can incorporate higher education into the campus network education system, provide online learning content, also can use campus micro-blog, mobile newspapers and other forms of regular innovation and entrepreneurship to provide students with typical cases. On the other hand, with the interactive characteristics of information platform, universities should strengthen the interaction between teachers and students in the process of using various information platforms to carry out higher education, and improve the effectiveness of higher education through speculative learning.

Summary
The most suitable and effective way for some newly-built undergraduate universities to serve regional economic development is to gradually transform into applied universities. Therefore, the application-oriented universities should serve the regional economic development, excavate new regional business forms, and take the initiative to transform to adapt to regional talent training. Colleges and universities should carry out structural reforms to their disciplines and specialties in the course of transformation and development. According to the needs of local economic and social development, they should grasp the key points of cutting into the industrial chain and innovation chain and concentrate their efforts and resources to form a high land for the integration and development of colleges and enterprises. Seize the breakthrough in the construction of school enterprise cooperation platform. The key to the integration of schools and enterprises is to design and build a win-win ecological interaction chain between universities and enterprises. School enterprise integration is the basic way to realize the location function of local undergraduate universities.

Acknowledgements
This thesis is funded by the higher education scientific research project of Shaanxi higher education society in 2017. Project Name: Research on location function of Local Application-oriented Universities from the perspective of depth integration of industry and education. Project number:
References


[3] Jianguo Li, Jing Zhang, Manhua Qin, Innovative Research on the Teaching Mode of Production, Learning and Research Practice in Higher Vocational Education--Taking the Mechanical Engineering Training Center of Tianjin Vocational University as an Example [J]. Higher Vocational Education (Journal of Tianjin Vocational University), 2014, 02:43-46


[5] Liguo Li, higher education personnel training model in the industrial 4.0 era [J].Tsinghua University Education Research, 2016, 01:6-16