



Expanding of Social Service Path for Application-oriented Universities in China

Dan Lyu^{1,2,*}, Changdong Chen¹, Li Zhang¹ and Qubo Yang¹

¹Wuhan Donghu University, China

²Hubei Provincial Collaborative Innovation Centre of Agricultural E-Commerce, China

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ABSTRACT The “new normal” economy in China has put forward a new requirement for higher education – the newly established local colleges and universities should transform into application-oriented universities. This is not only the urgent requirement for transformation and upgrading of Chinese economy, but also the inevitable trend of international education development. The application-oriented universities have incomparable advantages and play an irreplaceable role in contributing to local economic development and establishing regional innovation system. In the process of bidirectional interaction, application-oriented universities not only need to understand the demands of local economy and society, but also need to measure their own power. They should customize during the process of matching demand to supply and plan reasonably for the development of social service function. In this paper, literatures related to social services of local colleges and universities are sorted and constraints for application-oriented universities in performing social service function are analyzed. The purpose is to expand new paths for local economy service of application-oriented universities through the mechanism innovation.

INTRODUCTION

Lu Xin, vice minister of education in the China, said that Ministry of Education would lead the transformation of more than 600 local colleges and universities to application-oriented universities, and issue regulations on guiding the transformation of local colleges and universities, so as to lead a group of colleges and universities to transform to application technology universities in education idea, mode and method. So far, there are 2,409 general institutes of higher education and 1,602 local colleges and universities in China. Among them, 178 colleges and universities jointly issued *Zhumadian Consensus* and established the Application Technology University (College) Alliance in 2014. The “application-oriented universities” researched in this paper refer to the newly established local colleges and universities which transform to application technology universities and private colleges and universities which have stronger capacity.

Research Overview

In 1904, under the leading of President Charles Van Hise, University of Wisconsin put forward “Wisconsin Idea” with the core of “The boundaries of the University are the boundaries of the state. Teaching, scientific research and

service should consider the real demands of the state and serve the economic development of the state.” In the 1970s, the social service of American universities presented a new form “Interactive University”. This deepened the social service function of universities radically and marked the transformation of social service function of American colleges and universities from traditional “self-centeredness” to “other-centeredness” service mode. In European countries, in order to give application technology universities a place in the binary higher education system, they are usually named “Non-university Higher Education Institution” (Taylor and Ferreira 2008). At present, the application technology universities in European nations develop fast and its proportion in the whole higher education system becomes more and higher (Benedetto 2008). Nowadays, the talent structure of education in Germany, Switzerland and Netherlands is about 2:8, which means that academic talents accounts for 20 percent and technical talents for application accounts for 80 percent (Table 1) (Wang 2014). In brief, application-oriented universities intend to cultivate the available and inevitable talented workers to satisfy the need of producing, building, managing and serving (Cai 2013).

In terms of social services of application-oriented universities, the domestic scholars think that the social services of application-oriented

Table 1: Comparison of graduates from comprehensive universities and application technology universities in Germany

<i>Standard</i>	<i>Comprehensive universities</i>	<i>Application technology universities</i>
Employment rate (%)	86	90
Unemployment rate (%)	3	2
Permanent full-time job time	54	72
Gross annual income before tax (€)	48000	48550

universities should be professional service, science and technology service, training service, voluntary service and cultural service (Zhu 2015). The world-famous universities always make serving the society as their core idea and serve the social development of human being and national and regional economic development conscientiously (Sun and Du 2014). From the layout of national higher education, the role of local colleges and universities in regional economic and social development should be played and the advantage of local colleges and universities is their excellent local service (Chen 2014). The connotation of social services of local colleges and universities embodies in the innovative personnel training mode, vocational training, technical services, counterpart support and communication (Jiao 2014). Currently, many local colleges and universities in China do not realize the importance of serving regional economic development for self-development (Sun and Liu 2015); cannot correctly understand and handle the relationship between talent cultivation, scientific research and social service; the current situation that pertinence and adhesion for scientific achievements and local service is not strong is very serious (Zhu 2014; Zhang and Liu 2012). Application-oriented universities locate at the bottom of hierarchical structure of higher education system in China, so the core competitiveness of colleges and universities should be enhanced in the perspective of social needs and based on regionalization (Zhao and Wang 2014).

Objectives

Throughout the researches on application-oriented universities serving regional economic development in recent years, many discussions about application-oriented universities serving

regional economic development has been performed by domestic and foreign scholars, and more fruitful results have been obtained. These discussions have provided theoretical basis and experience available for reference for further researches. However, most of the researches have focused on the common characters of application-oriented universities. The feasibility of strategy and approach research is not strong under the new situation. What is more concerning is the fact that the specific mechanism research for implementing these policies is not enough. Under the current situation of big change and big restructuring of higher education, how can the application-oriented universities serve the regional economic development better and find out the restrictive factors become one of the focus problems.

METHODOLOGY

Based on more than 10 application-oriented Universities by investigation and study, through using the methods of literature collection, one-on-one Q&A and questionnaires way, relevant data was obtained. Data from more than 200 copies of documents and recovered 100 questionnaires was combined to know the application-oriented universities currently to serve the society, analyze the deficiency of social service and restriction factors.

RESULTS

The study found that existing application-oriented universities in China are transformed from newly established local colleges and universities and high-level private colleges and universities. They are just in experimental stage and their social service ability is relatively weak. The substantive interaction between school and regional society is not frequent. Currently, some schools develop social services with strong material gain color. The content of science and technology and economic efficiency are not high for some projects. The constraints for application-oriented universities in serving the local economy are mainly divided into following several aspects.

Difficult Building of Double-qualified Teachers

Due to past academic orientation, the introduction, examination, management and con-

struction of teachers in newly established local colleges and universities are generally performed according to academic requirements. There is no “double-qualified” teacher in the existing teacher team. Industry enterprises and scientific research institutions introduce and employ high-level engineering technical personnel and technical experts. The success of introduction and employment depends on relevant personnel teachers’ management policies and the work pay and conditions given by colleges or universities. Whether the technical experts and backbones of industry enterprises want to work for application technology universities is also an uncertain problem. In the meantime, there is also a problem for the introduced and employed high-level engineering technical personnel and technical experts. That is how to transform teachers and improve the teaching skills.

Too Much Investment

In terms of change of teaching conditions, the key is to construct the teaching facilities and teaching conditions which can meet the cultivating requirements of technical talents for application. Practical training and experimental teaching are main teaching methods for technical talents for application. However, the original teaching facilities and teaching conditions of newly established local colleges and universities are constructed mainly for cultivating academic talents and cannot satisfy the requirements of practical training and experimental teaching after transformation. At present, no sufficient funding can be used to improve and construct

the practical training and experimental teaching facilities and conditions. Although governments at all levels could provide a certain amount of financial support for the transformation of local colleges and universities, the financial support is difficult to resolve the problems basically.

Insufficient Scientific Research Ability

The histories of newly established local colleges and universities are short, their social reputation is not high, subject competitiveness is not strong and scientific research and technical development ability needs to be improved. At the same time, they do not have the ability to construct the technology innovation platforms, such as technology research and development center, engineering technology center and key laboratory jointly with enterprises. Compared with research universities, their scientific research ability, science and technology innovation ability, and ability of local service are very limited. In cooperation and competition with research universities, local colleges and universities are obviously at a disadvantaged position.

Low Transformation of Science and Technology Achievement

In 2013, 64,368 technologies was the output from institutions of higher education and the volume of transaction was 32.949 billion Yuan, which increased by 12.09 percent and accounted for 36.58 percent of contract turnover of technologies output from business institutions (Fig. 1). Consequently, the scientific and technologi-

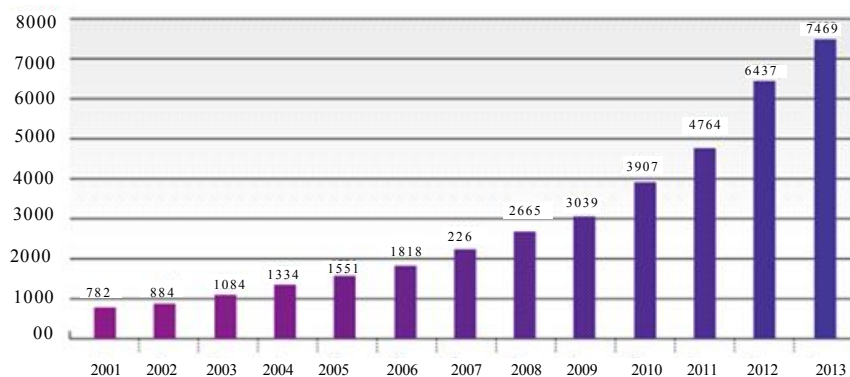


Fig. 2. China technology contract turnover nationwide in 2001-2013

Unit: Billion Yuan

Source: Author

cal achievements become disjointed with market demands seriously. In addition, the transformation of scientific and technological achievements also needs investment. In recent 5 years, the number of patents being granted for colleges and universities nationwide is 8389 and the number of patent exploitation only accounts for 22.8 percent. 77.2 percent of patents of universities are not industrialized. One of the reasons is lack of capital investment, because of that some outstanding scientific and technological achievements cannot move towards the market and produce due economic and social benefits.

Lack of Depth Co-operation between University and Enterprise

In China, the talent cultivating mechanism undertaken by both universities and enterprises has not been established due to various complicated reasons. The enterprises are only employing units currently. They get graduates from the labor market without taking education responsibilities and participating in cultivating technical talents for application. Moreover, although local colleges and universities have certain brand advantage and relative advantage in serving local economic development, the self-confidence of many enterprises (especially the famous enterprises and large enterprises) for its service ability and level is not enough. Meanwhile, inefficient communication between universities and enterprises is still very serious

based on actual researches. This is mainly reflected in neglecting of many research achievements. However, the enterprises look for suitable scientific research achievements around simultaneously.

DISCUSSION

The core of application-oriented universities is embodied in three applications, which are, developing application-oriented education, cultivating application-oriented talents and constructing application-oriented universities (Fig. 2). During the procedure of performing social service functions, application-oriented universities must carefully analyze their strengths, weaknesses, opportunities and challenges. Based on the actual situation of the regions and industries they serve and their own history and foundation of running the school, they should pinpoint their positions and committed to run the school with characteristics, achieving the target of combining the three functions of social service, talent cultivation and scientific research.

Diversification of the Co-operation between Schools and Enterprises

Local application-oriented undergraduate colleges and universities need to change their philosophy and approach for the cultivation of talents. They should set up “order-oriented” talent cultivating interactive group between

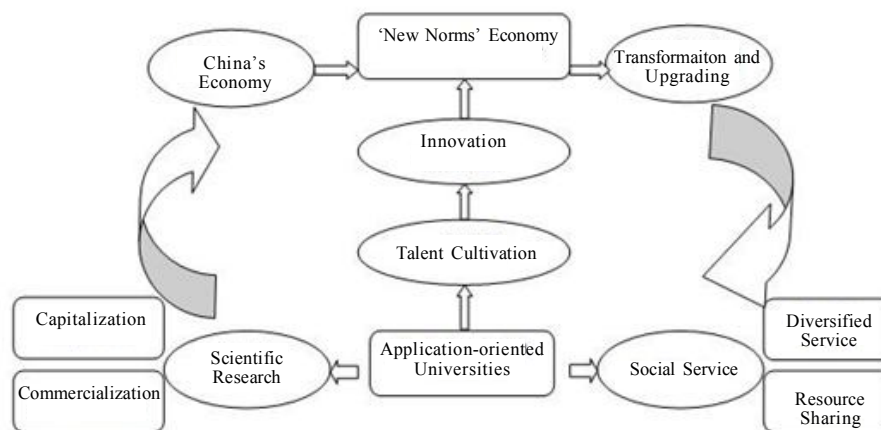


Fig. 2. Path for application-oriented universities in serving the economy
Source: Author

schools and enterprises and jointly develop personnel training programs with enterprises. Based on the needs of enterprise, curriculum setting system needs to be reformed by embedding the curriculum and co-building productive practice teaching base, realizing the combination of teaching and production, classroom and occupation, theory and practice and school and community. It is also necessary to recruit professionals from enterprises to each and jointly research teaching methods, cultivating all kinds of talents needed by the enterprise.

To Integrate into Local Social Life

As a society organization, the university needs the outside society for the exchange of matter, energy and information. Open education is the form and effective method of this exchange. University faculty and staff should actively participate in the activities of the community and widely carry out social services in terms of health care, mental health, social security, employment and employment transfer. Public lectures could also be arranged by means of television, newspapers and magazines, science museums and museums to improve mutual communication, relationship and understanding between city residents and university staff. In China, the university should open its library, gymnasium, stadium, concert halls and other facilities to promote the cultural and sports activities and social welfare of the community.

To Carry out Applied Research

The application-oriented universities need to conduct scientific positioning and select appropriate industry-study-research cooperation model according to their actual situation and the needs of local economic construction and social development, providing talent support for discipline and profession construction and applied scientific research. Local application-oriented universities should select SMEs and township enterprises as cooperation partners. Low-level cooperation should be adopted as cooperation method. Local application-oriented universities with relatively poor scientific research ability could also adopt low-level models such as joint research and development and exchanging scientific and technical personnel temporarily

to each other to promote the cooperation process of industry-study-research development.

Serve as the Think Tank

Local application-oriented undergraduate colleges and universities are also think tanks. Researches carried out with the vision of college scholars and school style can avoid the influences from governmental administration authority and enterprises, providing more rational and more objective plans solutions for decision-makers. The main functions are as follows. Firstly, by establishing wide-range relationships with relevant departments and enterprises, their problems in urgent need of research and solution and the situation and trend of local economy and social development could be understood. Secondly, it is necessary to assist relevant departments of the university to carry out strategic research on university development, exploring how to cultivate and form discipline and research directions with characteristics in the procedure of servicing local construction.

Information Resource Service

Local application-oriented universities tend to be the place where information aggregates and have outstanding advantages in terms of the collection, collation, processing, dissemination, exchange and utilization of information. Database for local economy, labor market and college graduate resource could be established to improve the understanding of local government and local enterprises towards international and domestic market conditions and local economy operation, providing convenient information for local residents in terms of employment, life and entertainment, etc. With the hardware advantages of universities, it is possible to improve the speed of information transfer, storage capacity and response capabilities, exclusively developing all kinds of information management system, decision support systems, technical information system and personnel services system for local government, enterprises and public institutions.

Support of Local Government

The establishment of application-oriented universities is inseparable from the strong sup-

port of local government, which should necessary help in making policies concerning the development of application-oriented universities and encourage talent in colleges and universities to gather in local research areas of high-grade, precision and advanced fields. Local government should also take the lead in building up communication platform of industry-university-research cooperation for universities and enterprises. By giving full play to talent advantages of colleges and universities, resource sharing could be achieved.

CONCLUSION

This study analyzed the factors restricting the application-oriented university to carry out social services, such as difficult building of double-qualified teachers, too much investment, insufficient scientific research ability, low transformation of science and technology achievement, lack of depth cooperation between university and enterprise. Exploring the path of expanding application-oriented university social service, such as diversification of the cooperation between schools and enterprises, to integrate into local social life, to carry out applied research, serve as the think tank, information resource service and support of local government. Because of the limitation on the sum and region of respondents, this study also has shortcomings. Future research will further evaluate the application-oriented university social services performance.

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REFERENCES

Benedetto L 2008. Research in non-university higher education institutions. *The Case of the Swiss Universities of Applied Science, Higher Education*, 56: 46-53.

- Cai JM 2013. *Take the Road of Cultivating Applied Talents*. Hefei: Anhui University Press.
- Chen F 2014. Reflection on several issues of transformation and development of some regular undergraduate colleges and universities. *Chinese Higher Education*, 12: 21-25.
- Emmanuel SIE 2012. Public policy and its clients: An inquiry into the receptivity of university idea amongst indigenes of Nasarawa State of Nigeria. *International Journal of Educational Sciences*, 4(1): 49-55.
- Jiao X 2014. The Transformation and Development of Local Colleges and Universities Call for Top-Level Design—Interview of “Transition and Development Practice and Policy Research of Local Undergraduate Colleges and Universities”. *China Education Daily*, January 6, P. 4.
- Meng QG 2014. University of applied sciences school reality and characteristics analysis. *Vocational and Technical Education*, 10: 61-64.
- Sun C, Du YY 2014. Development ideas of the European university of technology applications. *Chinese Higher Education*, 12: 37-40.
- Sun ZW, Liu WF 2015. Transformation of local colleges to the University of Applied Sciences. *Education and Occupation*, 5: 11-15.
- Taylor JS, Ferreira JB 2008. *Non-University Higher Education in Europe*. Dordrecht: Springer, 7: 43-52.
- Wang 2014. An overseas development characteristics of University of Applied Sciences. *Jiangsu Higher Education*, 1: 29-32.
- Xu QD 2015. Personnel classification under the new normal. *Cutting Edge*, 11: 87-93.
- Yang DP 2014. *China Education Development Report*. Beijing: Social Sciences Documentation Publishing House.
- Zhu L 2014. The paths of local universities to serve economic development with their scientific researches. *Journal of Yangzhou University (Higher Education Study Edition)*, 18: 30-35.
- Zhao S, Wang ZJ 2014. Path of universities application technology and development in China. *Management Observation*, 19: 67-71.
- Zhu SZ 2015. Value Integration University of Applied Sciences. *China Education Daily*, May 7, P. 13.
- Zhang ZZ, Liu T 2012. Problems and solutions of local universities' service in economic restructure and upgrade. *Journal of Ningbo University (Education Science Edition)*, 34: 83-86.

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