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Transformation From RTVUs to Open Universities in China: Current State and Challenges

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Abstract

Open and distance education has been playing an important role in China's development of higher education and lifelong learning. In 2012, the Chinese government approved six large-scale radio and television universities (RTVUs) to become open universities (OUs), including the Open University of China (OUC), Beijing Open University (BJOU), Shanghai Open University (SHOU), Guangdong Open University (GDOU), Jiangsu Open University (JSOU), and Yunnan Open University (YNOU). The purpose of this study is to provide a descriptive analysis of the transition from RVTUs to OUs, and the current state and challenges of open universities in China after five years' reform. Five topics are explored in this paper, including: the new positioning of open universities in China's vast and differentiated higher education system; award bearing and non-award bearing program offerings; implementation of the online teaching and learning modes; the use of Open Education Resources (OER) and online mini-courses; and the development and use of a credit bank system. A summary of these topics follows a discussion of four issues of open university reform, including key performance indicators (KPIs) for open universities, cohesion and resource sharing between the national and provincial open universities, quality assurance for award bearing programs, and planning to transform China's existing 39 provincial RTVUs into OUs. It is expected that the results of this study would contribute to knowledge about institutional differentiation in the world's largest higher education system, and on the merits of open and distance education in the human resource development in China. This paper may also provide insight for other countries that are engaged in institutional differentiation of higher education systems punctuated by the essential role of open universities in such planning and implementation.

Keywords: open and distance education, open universities, online teaching and learning, open education resources, credit bank system

Introduction

Open and distance education (ODE) has been an essential part of the lifelong education system in China. An ever-changing information and communication technology infrastructure and continuous social and economic development have enabled widespread uptake of ODE in China. The open and distance education institutions in China started as correspondence colleges housed in conventional universities in the 1950s and developed into radio universities (RUs) and television universities (TVUs) in the 1960s. After the Cultural Revolution in the 1970s, a national strategy resulted in the opening of radio and television universities (RTVUs) across the country. Other reforms took place in the 1990s, particularly with the push to create a mass system of higher education, to create a modern distance education system in China, and to increasingly blur the lines between conventional and distance education programs. The most recent reform was in 2012 when a handful of RTVUs, including the Central RTVU in Beijing, were transformed into Open Universities (OUs) within the context of promoting of learning society in the 21st century in China (Hao, 2017).

In the early 1960s, with the development of Radio and TV as well as the social demand for the higher education, RUs and TVUs were established in several central cities, including Beijing, Shanghai, Guangzhou, Shenyang, Changchun, and Harbin. For example, in Harbin, in 1961, the Harbin Municipal Committee decided to set up Harbin Broadcasting Normal University and Harbin TV University and for meeting the huge demand of learning. The teachers from the conventional universities in Harbin carried out teaching by broadcasting or recording at Harbin TV and Broadcasting Station. There were almost 10,000 students enrolled in the first year and many of them were factory workers, government officers, school teachers, and cadres who had graduated from high school (Zhang, 1960). However, the RUs and TVUs were suspended during the 10-year Cultural Revolution, which ended in 1976 (Ge, 2008). After the Cultural Revolution, the national economy, education, science, and technology sectors were in need of technical expertise. As such the workforce needed to be revitalized and advanced training at scale was deemed essential. In 1976, approximately 12 of 10,000 people possessed a higher education qualification, ranking as the ninth lowest in the world (Yang, 2011). In 1978, after meeting with the formal British Prime Minister, Edward Heath, who championed the successes of the UK Open University, the Chinese Vice Premier, Deng Xiaoping, decided to use radio and TV education to address the huge demand of higher education for the whole country and, under this context, the radio and television universities were opened (Ge, 2012). In 1979, the Central Radio & Television University (CRTVU) and 28 provincial radio and television universities were established (Wei, 2015). As a result, a comprehensive open and distance education system, the RTVU system, was organized at the central, provincial, urban, and rural levels.

Hereafter, the development of RTVUs could be summarized into three stages. From 1979 to 1989, RTVUs carried out higher education for employees, school teachers, and urban youth through radio and television. Many of them could not get access to the higher education system during the 10-year Cultural Revolution. At this stage, along with the Chinese Reform and Opening-up Policy, and the acceleration of expansion of big cities, some cities, such as Ningbo City in Zhejiang Province, had also established radio and television universities. From 1990 to 1998, RTVUs provided different types of education involving adult education, general college education, and continuing education, through radio and television programs, video, and computer mediated learning. By 1998, the RTVU system was assembled into one national CRTVU and 44 provincial radio and television universities (Ge, 2012). From 1999 to 2010, RTVUs complemented existing

learning options with online learning offered in various programs at different levels. At this stage, the enrollment and the scale of RTVUs expanded rapidly, which was increased from 0.95 million to 2.95 million, making the RTVU system one of the largest “universities” in the world (CRTVU, 2010). Special education programs were also provided for target groups including farmers, disabled people, military officers, and minority groups. In 2010, as a nationwide management system, the RTVU system had one CRTVU, 44 provincial radio and television universities, over 1,000 city-level colleges, and 3,000 county-level learning centers (Li, 2014).

In 2010, the State Council of China (2010a) issued *the Outline of China’s National Plan for Medium and Long-term Education Reform and Development (2010-2020)*. The plan consists of a preamble, four sections, and implementation measures. It proposed the strategic goal of “realizing basic educational modernization, building a learning society, and turning China into a country with rich human resources” (p. 14) by 2020. In order to propel “building a flexible, open system for lifelong education” (p. 15), the *Outline* explicitly came up with the task “to establish and run the open universities well” (p. 33). Then the State Council of China (2010b) initiated *The Exploration of the Open University Model with Chinese Characteristics*, as one of reforms of the national education system, and approved CRTVU and five provincial RTVUs to start a “1+5” pilot transformation from RTVUs into OUs.

On a two-year trial basis, the Open University of China and five provincial OUs were formally established upon approval of the Ministry of Education (MOE) in China. According to the MOE (2012a), the OUs in China were “the new type universities carrying out open and distance education mainly for adults supported by the use of modern information and communication technology” (p. 1). From then on, the Open University of China and five provincial OUs entered a new development stage. Although the reform of 1+5 open universities was implemented over five years since 2012, limited comprehensive research has been done on critically analyzing the achievements, effectiveness, challenges, etc. of this transformation.

The purpose of this study is intended to evaluate the achievements, effectiveness, challenges, and key issues of future development of open universities in China. It is hoped that the results of the study could be useful for reference for RTVUs planning to transition to open universities and that the experiences of open and distance education reform in China could be shared by other countries seeking to differentiate their higher education systems by including open universities to widen enrolment.

Methods

Samples

The “1+5 open universities” in China were selected for this study and their basic information was summarized in Table 1 (MOE, 2012a, 2012b, 2012c, 2012d, 2012e, 2012f).

Table 1

Overview of Sampled Six Open Universities

Name	Establishment	Former name	Region	No. of students in 2017 (in thousands)
The Open University of China	July 2012	China Central Radio & Television University	Nationwide	3,590
Beijing Open University	July 2012	Beijing Radio & Television University	Beijing city	72
Shanghai Open University	July 2012	Shanghai Radio & Television University	Shanghai city	157
Jiangsu Open University	January 2013	Jiangsu Radio & Television University	Jiangsu Province	111
Yunnan Open University	December 2012	Yunnan Radio & Television University	Yunnan Province	171
Guangdong Open University	August 2013	Guangdong Radio & Television University	Guangdong Province	216

Table 1 shows that, apart from the Open University of China, five local OUs are spread over China's two largest cities (Beijing and Shanghai), the industrialized coastal regions (Jiangsu Province and Guangdong Province), and the southwest minority region (Yunnan Province).

Procedures

There were three steps in this study. First, a literature review was conducted for clarifications of the context of OUs from the perspective of history and the current state, especially the policy changes and their impact on OUs. Second, the data were collected from six open universities for analyzing the strategic development and outcome during the five years' reform. Third, discussion and implementations took place on the reform achievements, problems, and challenges of the OUs in China, as well as future open and distance education development in China.

Data collection and comparative analysis. The relevant policies, speeches, reports, and papers from China Academic Journal Network Publishing Database, Ministry of Education in China database, and various websites from six open universities and 39 provincial RTVUs were collected and reviewed in order to understand and analyze the origins, processes, results, problems, and challenges of the transformation from RTVUs to OUs. The data on number of award bearing and non-award bearing programs, teaching and learning modes, use of Open Educational Resources (OER), online mini-courses, and the credit bank system of the sampled six open universities were collected, analyzed, and compared.

Results

The major results of this study could be classified into five aspects: (1) new position of open universities in China's system of higher education, (2) award bearing and non-award bearing program offering, (3) online teaching and learning mode, (4) OER and mini-courses, and (5) a credit bank system.

New Position of Open Universities in the Ecology of Higher Education in China

RTVUs were deemed as the beneficial complement of conventional universities (Chen et al., 2013). As a new type of university, open universities are considered as equal to conventional universities.

At the opening ceremony of the three open universities, namely the Open University of China, Beijing Open University, and Shanghai Open University, Deputy Premier Yandong Liu pointed out that open universities in China were open to anyone, open to anytime, and open to anyplace (Wu & Chang, 2012). The open universities should offer different levels of continuing education programs and provide learning platforms on lifelong learning for all people in China. She also mentioned that the open universities and conventional universities should have staggered development, which means that there are two different types of universities in the Chinese higher education system, and that they need to accept and keep the differentiation. They hold many differences, such as mission, position, target group, and teaching and learning mode in Chinese higher education system, which form a complementary system and provide lifelong learning opportunities for all (Zhang, 2011). Table 2 gives some examples of their differences.

Table 2

The Differences Between Open University and Conventional University in China

Differences	Open University	Conventional University
Mission	Education for all.	Elite education & Professional Education
Provision	1. Degree education, such as undergraduate education, associate degree education. 2. Non-degree training, such as community education, education for the elders, vocational skills training.	Degree education, such as bachelor, master, and doctor.
Target group	Various, such as farmers, immigrant workers, disabled, elders, militaries, ethnic minorities.	School age youth
Admission	Open admission. For example, a student with a diploma can enroll in an undergraduate degree.	Selective admission by the National College Entrance Examination (NCEE). In 2018, about 9.75 million students attended the NCEE, but only 2% can be accepted by "985 Project" universities, which are the 39 top universities in China.

Professor Keming Hao (2012), former chairwoman of the Chinese Society of Educational Development Strategy and member of the National Education Development Advisory Committee, stated that open universities in China were distinguishable as higher education institutions due to their focus on lifelong

learning, geographical reach, flexibility, and use of advanced technology for meeting the learning needs of a large and diverse society.

With the transformation from RTVUs, the open universities have become an important component of higher education, with their marked functions and mission, as well as their enrollment in China. In 2017, the enrollment in the open universities was about 4.01 million, accounting for 10.62% of the total enrollment in the higher education system (MOE, 2018). It can be seen that the open universities are indispensable for facilitating the reform and development of higher education in China.

Award Bearing and Non-Award Bearing Program Offering

Award bearing program offering. Some scholars (Chen, Zheng, & Yin, 2013; Hao, 2012; Wang, 2016) pointed out that autonomy should be one of the characteristics of universities in China, but this has been a challenge to the RTVUs for several decades.

An important difference between the RTVUs and the OUs is the right to award degrees. During the period of the RTVUs, the CRTVU cooperated with conventional universities to award bachelor degree. English degrees, for example, were jointly awarded by Beijing Language and Cultural University. The 44 provincial RTVUs did not have the right to issue degrees independently, but to be a branch of the CRTVU. But now, as open universities, they all have the right to award degree programs independently (MOE, 2012a).

Some of the reasons for this change are the trends of decentralization of education management, and to meet the different needs from the local economy and social development (Li, 2014). The award bearing programs of China's open universities are aimed at augmenting the knowledge and qualifications of professionals. For example, by developing and offering undergraduate degree programs in engineering, information security, and robot engineering, Guangdong Open University (2017) was responding to the industry needs in the region, which was well-recognized by the Guangdong Government. This has been the norm among all six open universities. Jiangsu Open University (2017) worked with JDcom, the largest online retailer in China, to establish the College of JDcom E-commerce for providing e-commerce related degree programs to meet local economic development needs. From 2012 to 2017, the number of undergraduate degree programs has been growing, as detailed in Table 3 (Beijing Open University, 2017; Guangdong Open University, 2017; Jiangsu Open University, 2017; Open University of China, 2017; Shanghai Open University, 2017; Yunnan Open University, 2017). There has been tremendous growth among all six open universities in the expansion of degree programs. In total, the number of degree programs increased two and a half times during 2013-2017.

Table 3

The Number of Bachelor Degree Programs Awarded Independently by Six Open Universities

Name	Before 2012 (RTVUs)	2013	2017
The Open University of China	0	19	29
Beijing Open University	0	4	24
Shanghai Open University	0	3	8
Jiangsu Open University	0	4	10
Yunnan Open University	0	4	15
Guangdong Open University	0	4	10
Total	0	38	96

Table 4 shows the number of students enrolled in the five provincial open universities in 2017. An important change is that these five universities, during the RTVU period, were not able to issue their own degrees independently, but had to comply with the degree requirements of the CRTVU. After becoming open universities, they were able to independently issue their own degrees. At the same time, they still cooperated with and were branches of the OUC. They recruited students in the name of the OUC and issued the OUC degree.

Table 4

*The Distribution of Enrollments in Six Open Universities in 2017**

Name	For itself	For the OUC	Total
Beijing Open University	4	68	72
Shanghai Open University	96	31	157
Jiangsu Open University	26	85	111
Yunnan Open University	137	34	171
Guangdong Open University	11	205	216

*Note. All numbers are in thousands.

Non-award bearing program offering. As required by the Ministry of Education (2012a, 2012b, 2012c, 2012d, 2012e, 2012f), the open universities need to “promote non-degree education and training for meeting various and diverse needs of Chinese people” (p. 2). After 2012, all six OUs continued developing and offering non-award bearing programs to meet the needs of lifelong learning for all people, under varying sub-institutions (Jiangsu Open University, 2017; Yang, 2013b; see Table 5).

Table 5

Sub-Institutions Under RTVUs Before and After 2012

Name	Before 2012 (RTVUs)	After 2012
The Open University of China	College for Disabled People. Center for Community Education of MOE.	College for Disabled People. Center for Community Education of MOE. University for the Third Age. College for Migrant Workers. College for McDonald employees.
Beijing Open University	University for the Third Age.	University for the Third Age. Center for Community Education in Beijing.
Shanghai Open University	College for Disabled People.	College for Disabled People. College for the Third Age. College for Craftsmen. College for Women. Center for Learning Society in Shanghai.
Jiangsu Open University	College for Disabled People.	College for Disabled People. University for the Third Age. Center for Social Education in Jiangsu Province.
Yunnan Open University		College for Disabled People. College for Farmers. Center for Lifelong Education in Yunnan Province.
Guangdong Open University		University for the Third Age. Center for Community Education in Guangdong Province.

It can be seen from Table 5 that, apart from offering degree programs for adults, open universities have strived to support a differentiated system based on inclusiveness and equality.

Online Teaching and Learning Mode

Transformation of teaching and learning from radio, television, and multimedia to Internet-based has been a significant change for the RTVUs to become OUs. The Ministry of Education (2012g) promulgated the *Development Plan for the Ten Years of ICT in Education*, marking the open universities as “a test field, a demonstration area and one of the leaders in the development of ICT in education in China” (Hao, 2017, p. 5). It is highly related to the demand and context of the ubiquity of Internet use in China, which stands at nearly 800 million users (CNNIC, 2018). Chinese President Jinping Xi, in acknowledging this growth, asserted that leveraging the Internet to advance learning will be a driving force for economic growth (Hua, 2016). According to the plan:

The open universities are the main force for building public service platforms for continuing education, providing services to the whole society, building a convenient, flexible and personalized

ICT-based learning environment for learners, and facilitating the construction of Lifelong learning system and learning society. (MOE, 2012g)

Since then, China's six open universities have been committed to adopting online teaching and learning, thereby promoting the integration of ICTs in education and teaching. The Open University of China puts forward a policy entitled, "Six-network Integration Mode," based on six core elements of online teaching and learning. They are: online learning space, online management, online courses, online tutoring teams, online learning support, and online assessment (Yang, 2013a). Yunnan Open University has proposed an online learning model based on a knowledge map. President Luo (2015) of the Yunnan Open University said that, according to the analysis of the structure and deconstruction of knowledge, the learning materials of knowledge have a tree-shaped structure, which can be described as a knowledge tree map that includes key knowledge levels of micro knowledge. Under the guidance and assessment of teachers, as well as the use of computers, learners deconstruct learning materials into a knowledge map. Yunnan Open University formulates learning methods for beginners and senior learners according to the knowledge map, and programs software that guides learners to extract key knowledge, to decompose micro knowledge from the learning materials, and to build a knowledge tree. Jiangsu Open University has promoted the massive private online course (MPOC) model. It has organized online classes based on different time zones, regions, and needs of learners, which is good for providing stratified teaching (Cui, 2018a). Finally, Beijing Open University (2017) has established the Institute of Artificial Intelligence to promote research of ICT in education.

OER and Mini-Courses

The Ministry of Education (2012a, 2012b, 2012c, 2012d, 2012f) requested all open universities to build learning resources based on the curriculum, make full use of quality education resources, and promote the sharing of learning resources. As a fundamental task, the six open universities have made innovations in exploring the mechanisms and OER products.

All six OUs have set alliances with industry, enterprises, and media for designing and developing online OER for resource sharing. For example, Jiangsu Open University (2017) established a resource sharing alliance with the Jiangsu Radio and TV Education Channel, Jiangsu Audio-Visual Education Center, Telecom Company, and Phoenix Media Group. It also signed a strategic cooperation agreement with Shanghai Jiaotong University to share quality learning resources for the public (Cui, 2018b). The Open University of China (2017) cooperates with industry, enterprises, colleges, and conventional universities to establish one National Digital Learning Resources Centre in Beijing and 249 online learning resource development centers in 31 provinces, providing and gathering high-quality degree and non-degree digital learning resources.

From 2012 to 2017, the Open University of China (2017) has been a mass provider of OER. This has included tens of thousands of courses, free-to-use lectures, a digital library, and special learning websites that are open to the public. Over 30,000 mini-courses, covering various disciplines, are widely used by adult learners for meeting their learning needs. Guangdong Open University (2017) has built the Guangdong Lifelong Learning Network, including 66,211 open online courses. Shanghai Open University (2017) has

developed the Shanghai Learning Network, offering more than 28,000 online courses with 3 million registered users. The OER developed by the six OUs are summarized in Table 6.

Table 6

The Website and Number of OER in Six Open Universities

Name	OER websites	Disciplines	The number of OER
The Open University of China	Online mini-course website. (http://www.5minutes.com.cn/)	11	30,000
	National E-learning Resource Center. (http://www.nerc.edu.cn)	11	146,834
Beijing Open University	Beijing Citizens Lifelong Learning Network. (http://www.bjlearning.cn/)	4	5,200
Shanghai Open University	Shanghai Learning Network. (http://www.shlll.net/main/index.html)	9	28,000
Jiangsu Open University	Jiangsu Study Network. (http://www.js-study.cn)	9	33,379
Yunnan Open University	Yunnan Online Learning College for Cadres. (http://www.yngbzx.cn/)	6	18,000
Guangdong Open University	Guangdong Lifelong Learning Network. (http://www.gdlll.cn/)	10	66,211

Credit Bank Systems

The establishment of qualifications frameworks (QF) for lifelong learning has been popularized worldwide (Zhang, 2014). They have been used for the articulation and communication among conventional education, vocational education, continuing education, and corporate training for mutual recognition of learning credits. In 2010, The State Council (2010b) started a pilot project of establishing QF and a “credit bank” system in China, and decided to include the open universities in the project. One of the reasons is that promoting formal, non-formal, and informal education is an essential feature of open universities, which differ from RTVUs and conventional universities (Hao, 2017).

In an attempt to bridge promotion with recognition, China’s open universities are exploring QF and credit bank systems in which credentials or recognition for different types of education and training could be accredited, accumulated, and transferred. As emphasized by the Ministry of Education, the open universities should promote the development of credit bank systems and establish a lifelong learning “lijiaoqiao” (pathway) by mutual recognition of learning outcomes and the accumulation and transfer of credits (MOE, 2012b, 2012c, 2012d, 2012f, 2012g).

The Open University of China (2017) has adopted the “levels + standard” credit bank construction approach in practice. It has established mutual recognition alliances with industry, companies, universities, and other open universities for promoting the accreditation, accumulation, and transfer of formal and informal learning outcomes. For example, the OUC works together with the China Society of Social Workers to facilitate the recognition of formal, non-formal, and informal learning outcomes for social work by

establishing standards of recognition of credits and rules of credit transfer. By the end of 2017, 70 learning outcome accreditation centers have been set up in 31 provinces and 21 industries across the country. Guangdong Open University (2017) developed a local qualifications framework using a standardized approach of service industry under the leadership of the governor of Guangdong Province. In March 2017, the *Guangdong Lifelong Education Qualification Framework Standard* (Guangdong Open University, 2017) was formally launched and became the first provincial level QF in the field of lifelong education, which was registered in the Standardization Administration of the People's Republic of China (SAC), an organization authorized by the State Council to exercise administrative responsibilities by undertaking unified management, supervision, and overall coordination of standardization works in China (Liu, 2018).

After five years of reform and development, the open universities have moved towards a new type of people's universities. Great changes have been made in relation to function, position, and provision of differentiated learning, social services, teaching and learning mode, OER, and the credit bank system.

Discussion

Achievements

From the 1950s to the present, RTVUs and OUs, in their varying forms, have played important roles in the economic and social development stages in China.

Under China's reforms, the RTVUs were the foundation of country's open and distance education system that morphed into the largest system in the world. The RTVUs made great contributions in facilitating access to learning for the masses and contributing to greater national development. From 1979 to 2009, the RTVUs had a total of 7.2 million graduates, representing 24% of the total number of higher education graduates during this time (CRTVU, 2010). Besides that, the RTVUs also provided programs of vocational education, community education, public officer training, and professional skill training for over 60 million people (Lu, 2014).

The open universities transformation should be considered a successful reform within the country's changing context. They are based on the need of the Chinese government to build strong human resources and a learning society in the 21st century. Open universities are unique in their ability to develop with the changes and trends of economic structural transformation, requirements of mass higher education, the aging population and the widening social gap, the development of ICT, and the educational reforms in China. For example, the OUC (2017) had about 3.6 million registered students in 2017, of which more than 70% students were from the grassroots level, with 55% located in the central and western ethnic minority border regions. Of the 2017 student population, 200,000 were rural students, 120,000 were military personnel, 270,000 were ethnic minority students, and 6,000 were disabled students. Second, the open universities meet the diverse learning needs of the Chinese people and promote human resource development. Third, the open universities provide the labor force with continued learning opportunities to advance skill acquisition and remain current with the ever-changing work environment. Fourth, the open universities enable disadvantaged groups to participate in quality learning opportunities. Finally, the open

universities facilitate the development of network-based learning, and create an open and flexible education system that makes learning for anyone, anyplace, and anytime possible.

The MOE (2018) commented that the six open universities made great progress in serving the national and local economic and social development, facilitating the deep integration of ICT with teaching and learning mode, enhancing the quality of professionals, and promoting the modern university system, and developing a credit bank system. The OUs are explorers of the reform on teaching and learning methods, providers of continuing education services, and promoters of the construction of a learning society and education fairness (Hao, 2017).

The reform of open universities in China has also been recognized internationally. The International Council for Open and Distance Education (ICDE) awarded the *Institutional Prize of Excellence* to the Open University of China, and praised it for its significant achievements and contributions to the international community of open and distance education. According to the Prize Nomination Speech, the OUC was excellent for the following reasons (ICDE, 2017):

- Its leading role and significant contribution to the development of China's open and distance education system – as well as its participation in the development of international open education.
- Its formation of a system of education where the learning model and curriculum are based on joint construction and sharing, cross-industry and cross-regional university, catering to rural and urban as well as overseas students.
- Its cooperation with other colleges and universities, vocational schools and social education institutions to establish a National Digital Learning Resources Centre.
- Its focus on the quality of learner development opening online learning spaces for tens of thousands of teachers and millions of students, with customized services for different group of people.
- Its ongoing formation of a “credit bank” system to promote the accreditation, accumulation and transfer of formal and informal learning outcomes.
- The initial formation of a non-degree education model that meets people's diverse and personalized requirements for lifelong learning.

Problems and Challenges

Notwithstanding the achievements above, the reform and development of open universities have also been facing problems and challenges in relation to the following four aspects.

Over-reliance on government policy. Both RTVUs and OUs are established by the Chinese government for solving the problem of economic and social development of the country during a specific period. On the one hand, it benefits from the support of government policy. On the other hand, it has indirectly caused policy reliance without the autonomy that conventional universities enjoy, and caused reform practices to be constrained. For example, the policy of establishing open universities and the 1+5 pilot transformation from RTVUs into OUs has greatly promoted the development of the CRTVU, and

especially the five local RTVUs. As Hao (2017) said, because of this policy, the local governments gave a lot of support to them, such as the increase of funding, infrastructure, and personnel. Compared with them, the 39 RTVUs outside of the pilot have much less support.

Contradiction between unification and diversification. The RTVUs uses a national unified operation model. From the central to the local government, a five-level operation system is adopted, including unified enrollment, unified discipline, unified curriculum, unified teaching materials, and uniform assessment (Ge, 2012). This model is helpful for strong control and standardization of teaching and learning, as well as training large numbers of people rapidly. However, for the open universities, with the diversification of local economic and social development, and the differentiation of demands, this model cannot meet localized needs.

Conflict between pilot reform and the existing education system. The open universities are committed to realizing open access and strict graduation, flexible schooling, and credit recognition and transfer, which create some conflicts with the current Chinese higher education enrollment and management system. For example, the length of schooling in the open universities has the same eight-year restriction as conventional universities do. This means that students in bachelor degree programs have to complete their study within eight years (Wang, 2017). Moreover, the issues of stakeholder cooperation, open and flexible platform, recognition of learning outcomes, and quality assurance may involve breakthroughs and innovations in the existing education system and mechanisms (Cui, 2018a).

Growing competitiveness in online education market. The open and distance learning institutions in China are now experiencing an unprecedented prosperous period while the market is increasingly competitive, which covers all education levels, attracts public and private sectors, and provides various scopes of services (Gaba & Li, 2015). According to ResearchInChina (2017), China's online education service industry has expanded around 20% in recent years, with the market worth of RMB 150.7 billion in 2016, which reflects a year-on-year growth of 23%. The number of users has also increased rapidly, reaching 89.27 million in the same period, a 21.9% rise from a year ago. Propelled by favourable policies and capital inflows, the Chinese online education service market and users would maintain a rapid growth rate, hitting an estimated RMB 421.6 billion with 241.6 million learners by 2021. Following the wave of MOOCs, the conventional universities in China have strived to develop open and distance learning in recent years. For example, in 2013, Tsinghua University and Peking University joined Edx, while Fudan University and Shanghai Jiaotong University joined Coursera. Furthermore, the top nine Chinese universities formed an alliance to offer "Chinese MOOCs," and enterprises – such as the Alibaba Group – have taken part in the co-creation of Chinese MOOCs. Several universities have launched their own MOOC platforms, such as "xuetangx.com" of Tsinghua University, with an independent construction and operating model. It shows that the online education market is getting more competitive. Prompted by the MOOCs boom, the MOE (2015) promulgated the *Opinions and Suggestions for Promoting the Construction, Application and Management of MOOCs*, which created favourable policy conditions for the orderly development of MOOCs. Therefore, with the conventional universities and enterprises widely joining in open and distance education, it is an urgent issue for open universities to explore their own position, advantages, and educational market.

New Issues

Key performance indicators for open universities. The MOE sets basic regulations on open university development. In the *Opinions of the Ministry of Education on Running Open Universities*, issued by the MOE in 2016, the guidelines, principle, objectives, and tasks on how to promote open universities were clarified. President Yuan of Shanghai Open University, however, stated that the key performance indicators and quality standards of the open universities were still not clear (Yuan, 2018). The determination of performance indicators and quality standards are critical for clarifying the positioning of OUs as a new type of university. In the period of RTVUs, because of the lack of clear indicators and quality standards of RTVUs, the quality of RTVU education followed the standards of conventional universities. This indirectly led to the homogenization of RTVUs and conventional universities, although they were two different types of higher education institutions.

Quality resource sharing between national OU and provincial ones. After the transformation from RTVUs, the provincial OUs gradually separated from the RTVU system and became independent. They are developing their own quality educational resources, digital learning environments, quality teaching staff, and online education platforms with functions of teaching, learning, management, research, and services. However, a sharing mechanism among the six open universities has not yet been established. There is an urgent need for open universities to collaborate and explore effective models to share knowledge, resources, and institutional talent, and make policies to avoid duplication for optimizing efficiency, cost-effectiveness, and social benefits.

Cohesion between national OU and provincial ones. Since the establishment of six open universities in 2012, the challenge of how to deal with the relationship between the national open university and provincial open universities persists (Chen et al., 2013; Hao, 2012; Xu, Wei, & Li, 2017). The unification during the period of RTVUs is difficult to adapt to and fully meet the current needs of the different provincial open universities. Yet at the same time, the overemphasis on separating and isolating from each other will also cause difficulties for realizing resource sharing for the Chinese open university system. How to achieve an effective mechanism to maintain the balance between the national open university and provincial open universities, and to build consensus, mutual benefits, and win-win results, is one of the key issues for the next step.

Quality assurance for awarding bearing programs. The Minister of MOE emphasizes that after the 19th CPC National Congress, the primary focus of higher education in China is to achieve high quality development (Sun, 2017). However, the six open universities point out in their self-evaluation reports that quality assurance and capacity building, including quality teachers, quality management, and quality curriculum design and development are their major problems (Beijing Open University, 2017; Guangdong Open University, 2017; Jiangsu Open University, 2017; Open University of China, 2017; Shanghai Open University, 2017; Yunnan Open University, 2017). Only 30% of teachers at OUs in China have postgraduate qualifications, and many of them lack professional development opportunities (Yang, 2014). Although the open universities have the right to independently award bachelor degrees, there is a considerable quality gap between open universities and top conventional universities in terms of faculty, subjects, and teaching quality (Hao, 2012).

Transforming the Remaining 39 Provincial RTVUs to OUs

For realizing the goal of “the open university system with Chinese characteristics in 2020” (MOE, 2016, p. 4), it is essential to explore the development of piloted open universities and remaining RTVUs. The RTVU has been a holistic system, involving one CRTVU, 44 provincial RTVUs, over 1,000 city-level colleges, and more than 3,000 county-level learning centers. Nowadays, the OUs are still regarded as a system, namely the “open university system with Chinese characteristics,” operating under the MOE. However, after transforming six RTVUs to OUs in 2012, the MOE has not yet provided the explicit schedule and timeline for the transformation of the remaining 39 provincial RTVUs to OUs.

Implementations

Referring to the result of discussion above, some implementations for the future development of open universities are suggested as follows. First, the open universities need to establish regulations and charters to form a new open university system with Chinese characteristics. The capacity building of open universities needs to be strengthened in the area of quality assurance, staff development, use of advanced information and communication technology, educational collaboration, and innovation. Second, the national strategic development of open universities needs to be well-planned, including key performance indicators, assessment mechanisms, and structure of the new open university system, as well as the plan for the transformation of 39 RTVUs to OUs. Third, it is necessary to accelerate the process of building QF and credit transfer systems at the national level. Without unified national QF levels and standards, it will be difficult to achieve mutual recognition and credit transfer for all types of qualifications among different areas and levels (Zhang, 2014). Finally, the educational reform should be based on outcomes of research and practice. Great efforts should be made to conduct scientific research on open universities. It is necessary to do in-depth comparative studies, field studies, and applied studies focusing on several key research topics in open and distance education, such as inclusive education, evaluation, and quality assurance, the application of ICTs in education, and the curriculum design, as well as new issues on Internet+ education, leadership and innovation, OER and MOOCs, mobile learning, big data, and learning analytics (Zhang, 2017).

Conclusion

This paper presents the past and current development of open universities in China. During the transformation from RTVUs to open universities since 2012, some achievements have been made, while many challenges have been persistently emerging. The development of open universities in China has been entering the critical stage and many issues need to be explored through research and practice. It hoped that the outcome of this study could contribute to the literature on recent developments of open universities in China, as well as present developments and challenges that may be applicable to other countries that are building their own open and distance education systems to support greater institutional differentiation and enrolment growth.

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