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Review of Distance Education used in Higher Education in China

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ABSTRACT :

Chinese education has a long history, and the Chinese higher education system is the largest in the world, but distance education in China started later than it did in developed countries. This article provides an overview of the recent distance education development in Chinese higher education. Specifically, the article discusses the positive impact distance education has on higher education and the difficulties that have to be dealt with. The potential for further developing distance education is considered. In addition, challenges are discussed, and recommendations are made to improve the distance education environment for higher education.

Keywords: distance education, higher education, China

INTRODUCTION

If we count Confucius (551 - 479 BC) as the beginning of Chinese education, it has a history of 2,500 years. In Han Dynasty (206 BC – 220 AD) the first civil service examination program was instituted to find common people to fill public positions based on knowledge and ability, not genealogy. This national examination system was used with little variation for nearly 2,000 years through other dynasties, until it was abolished in the last feudal dynasty in 1905. During these 2,000 years education was a privilege only few could enjoy. In 1949, the People's Republic of China was established, starting a new page in the development of Chinese education, which was made available for more people, but higher education remained inaccessible for the majority. One indicator of higher education development is participation rates. For almost three decades the Chinese higher education participation rate stayed at about three percent of the age group.

In 1978 the Chinese government implemented a policy of reforming and opening up, and Chinese higher education began to develop in a speed that had never been seen before. The year 1999 saw higher education enter another period of fast growth. In 2000 there were almost 8 million higher education students, and the enrollment number increased to 27 million in 2007 (Ministry of Education, April 2008).

When the participation rate in higher education is between 15 and 50 percent, it is considered mass education (Trow, 1973). In 2007 with more than 27 million students in various programs, the Chinese higher education participation rate was 23 percent (Ministry of Education, April 2008). The largest in the world, the Chinese higher education system can be considered mass education. Chinese higher education is more accessible than ever before, but there are problems.

There are significant gaps in the development of higher education across

regions and social groups, as well as between urban centers and rural areas. These gaps negatively affect some families, especially families of low incomes. The participation rate does not give an accurate picture of higher education development. Higher education is still not available in some rural and remote areas. With tuitions rising rapidly, higher education is difficult for poor families to access. In addition, the increasing availability of higher education makes people pay more attention to quality, and there are concerns. When compared with institutions in developed countries, domestic institutions are not rated highly (National Bureau of Statistics of China, 2002).

The average Chinese education attainment of 8.5 years (Zhou, Ji, 2007) is significantly lower than the 12 years of the Organization of Economic Cooperation and Development (OECD) countries. Within China, because of income and resource disparities, the gap in education attainment between eastern regions and western regions is wide. The current needs for education spending are estimated at 6-9 percent of GDP, but the actual expenditures are about 5 percent (Dahlman, Zeng, & Wang, 2007), significantly lower than the OECD average of 6.2 percent (OECD, 2007). In 2007 approximately 9.5 million Chinese took the entry examinations for higher education; only about 5.7 million were admitted (Yang, 2007). It is obvious that part of the demand for higher education is not met by the current supply.

DISTANCE EDUCATION

To meet part of the demand for higher education, Chinese higher educators started using the Internet to provide distance education (DE) in 1999. With China's huge education needs and geographic dispersion, DE has a great potential. It plays a unique and increasingly important role in connecting people for the pursuit of knowledge. It can provide opportunities to different people at various levels in different places. Through educational networks, students can individually obtain information on the most recent scientific developments from prestigious institutions around the world. Without the constraints of status, time, space, institution, and nationality, DE provides a learning venue for anyone who has access to the Internet and other DE channels. Currently in addition to students in various Chinese DE programs, there are students enrolled in foreign programs while they remain in China, learning through the Internet. Integrated into university courses, the Internet increases the interaction of student-to-instructor, student-to-student, student-to-material, and student-to-expert/practitioner (Wang, 2007). Worldwide, web-based courses and programs have been increasingly developed by many academic institutions due to their benefits for both learners and educators (Nam & Smith-Jackson, 2007).

In addition, DE can play a significant role in realizing equity in Chinese higher education (Zhou, Jiezhen, 2007). The development of higher education is quite uneven, with most institutions located in the eastern and coastal part of the country. Zhou points out that there are three opportunity inequities in Chinese higher education: 1) inequity among students from different regions of the country, with students in the eastern part having an advantage over those in the western part; 2) inequity among students from different social groups, with students from rich families having an advantage over those from poor families; 3) inequity caused by competition among institutions due to certain government policies, with some institutions having an advantage over others. Zhou argues that since DE is able to overcome the constraints of space and time, it has an important contribution to make in promoting the equity of education opportunities. He recommends that the government provide financial support to DE so that it can develop faster, reducing inequity in education. Zhou's argument is similar to Tait's (2008) contention that one of the four main functions of open universities is to provide individual

opportunity.

On July 24, 2008, China Internet Network Information Centre reported that about 253 million Chinese had used the Internet as of June 30, 2008. This placed China as the country with the most Internet users in the world. However, only about 19 percent of the Chinese population had used the Internet, which was lower than the world average of 21 percent. When compared with the United States' 72 percent, Japan's 74 percent, and South Korea's 71 percent (Miniwatts Marketing Group, 2008), the gap was even greater. There was also an obvious gap within China between urban areas and rural areas in terms of Internet use. While proportionately Chinese lag behind in using the Internet, the annual increase in the number of Internet users is about 56 percent (China Internet Network Information Centre, 2008). It is expected the number of Chinese Internet users will continue to increase over the next three to five years as rapidly as it did in 2006 and 2007 (China Internet Network Information Center, 2007). As more Chinese go online, the Internet grows in importance as a venue for DE. In 2007 approximately 1,325,000 students were admitted into various DE programs. By the end of that year, about 6,678,000 students registered in 68 universities that had received the Ministry of Education's approval to provide DE programs over the Internet and through other channels (Li, Yan, & Yao, 2008). According to a report from iResearch Consulting Group (2008), the 2007 network education market was approximately 17.5 billion yuan (about 2.4 billion US dollars).

In November 2006, the Ministry of Science and Technology and the Ministry of Education launched the Public Service Demonstration Project for Digital Education. They hoped to advance key technologies in providing digital education to the general public, establish a new model of services, provide high quality and individualized digital degree and non-degree programs, promote equity and accessibility, and contribute to the establishment of a life long learning system (Yan, 2007). By June 2007, over 90 percent of Chinese universities established their own campus networks (Guo, 2007).

The Ministry of Education estimates that from 2007 to 2050 about 25 million to 30 million people per year need various types of continuous education (Dahlman, Zeng, & Wang, 2007). In 2008 approximately 10.4 million people took the higher education entry examinations (Yuan, 2008). The demand for higher education continues to grow. It is impossible for the traditional means of education to meet this demand. DE can and should play a greater role in meeting the demand. In addition, per student cost for DE is lower than that for face-to-face programs (Zhou, Jiezhen, 2007).

On June 16, 2007, the Ministry of Education and *China Education Info* journal hosted 2007 Innovation and Development in Information and Communication Technology (ICT) in Chinese Education Forum in Beijing. At the Forum, it was pointed out that while there had been impressive progress in the development of Chinese education ICT, there were also problems. These problems negatively affected the effectiveness of DE, and Chinese educators had to deal with these problems seriously (Guo, 2007).

On October 27, 2007, the International Distance Education Forum was held in Beijing, where most of the over 200 participants were Chinese, but there were also attendees from Europe, the United States, Australia and other Asian countries. The theme of the forum was: Quality and effectiveness of distance education, two pressing issues for Chinese educators (Song, 2007). To meet the requirements of economic and social change, to build an information country capable of innovation, and to meet the practical needs of DE development, Chinese higher educators and ICT professionals have much to do before China catches up with developed countries.

A national distance vocational education and adult education resource

bank will be established, where information can be shared. Over the years various information banks have been built; however, high-quality banks are scarce. There is also the problem of standardization; sharing learning resources is still difficult (Hao, Wang, & Wang, 2008). In addition, although they are not as technologically savvy as American students (Glotzbach, Mordkovich, & Radwan, 2008), many Chinese higher education students today are frequent Internet users (China Internet Network Information Centre, 2008), and they expect their instructors to deliver courses in a variety of ways.

Chinese higher educators started DE over the Internet in 1999 in four universities with 2,900 students. In 2006 the Ministry of Education announced that 68 universities had received its approval to provide degree programs over the Internet. These 68 universities have over 6 million students registered in various DE programs, which cover over 10 disciplines (Liu, 2007). The number of institutions receiving Ministry approval is expected to increase (Yan, 2007).

Students are admitted into DE programs twice a year, in the spring and the fall. Usually these students are admitted after passing one of three sets of higher education entry examinations: 1) the national higher education entry examinations, 2) the national adult higher education entry examinations, or 3) entry examinations designed by individual institutions. Institutions have some autonomy in deciding how to admit applicants, and most use two or three methods in recruiting DE students.

In 2007 most applicants who applied to a distance higher education program were admitted (Zhang, 2007). The admission rate for DE programs was much higher than the admission rate for face-to-face programs, which was about 60 percent in 2007 (Yang, 2007). Some DE students study for a degree; others study for a certificate or diploma. Students in a program for a certificate or diploma are mainly people with a job, and their education is considered continuing education. By the end of 2007, over 6 million people had graduated with a degree or certificate, and over 40 million people had received various training through DE (Chen, 2008).

Chinese DE students fall into five groups: 1) secondary school graduates studying for a vocational certificate, usually for two to four years; 2) secondary graduates studying for a bachelor's degree, for four to eight years; 3) vocational education graduates studying for a bachelor's degree, usually for two to six years; 4) bachelor degree holders studying for a second bachelor degree, also for two to six years; 5) bachelor degree holders studying for a graduate degree, usually for two to three years. Besides the Internet, most DE programs use cable television networks and satellite technology.

Distance education is provided in all 31 provinces, autonomous regions, and municipalities directly under the national government. Most institutions offering DE courses have flexible programs where students work for credits. Students who have earned enough credits within a specific time frame receive a diploma or degree.

THE IMPACT OF DISTANCE EDUCATION AND RELATED ISSUES

Instruction in Chinese DE is mainly provided through the Internet, TV networks and satellite technology, but recently a few institutions started using mobile technology. With over 100,000 students of different ages, occupations, education attainments and computer competences scattered at 59 campuses and teaching sites, Shanghai TV University has been exploring the establishment of a mobile campus since September 2004, hoping to provide a more interactive learning environment that serves students 24 hours a day and 7 days a week (Sun & Chen, 2007). Mainly using cell phone texting technology, the mobile campus is the extension of the real campus and online campus. Currently Shanghai TV

University provides instruction to its students mostly through online teaching, with some in person and TV broadcasting instruction. The mobile campus provides more flexibility and interaction between instructors, students and administrators. By January 2007 there were 83,892 students registered at the mobile campus. Sun and Chen find that the mobile students performed better than the national average in the standardized national "university English level A" tests. Shanghai TV University has extended its mobile instruction to the two provinces of Shandong and Jiangxi with over 200,000 students.

While the overall mobile experience has been positive, there are shortcomings (Sun & Chen, 2007). Mobile learning is not always effective, because students tend to use small amounts of time for study. It is not easy for them to concentrate for a certain period of time. ICT used in mobile learning is still quite limited, and it is difficult to display multi-media information. Learning resources applicable in mobile study are inadequate, and there is little Chinese research on mobile learning. Shanghai TV University will use 3G technology in its mobile campus to increase the capacity of mobile teaching. Instructors will make efforts to develop learning resources for the mobile campus. They will attempt to connect online learning with mobile learning, increasing the mobile component. Further more, they will start research on mobile learning to inform their practice.

In a study discussing mobile learning in China, Shen and Ding (2007) notice that mobile learning is provided mainly in a few disciplines, particularly English courses. They point out that the current technology in terms of both hardware and software is almost ready for Chinese to further develop mobile learning, so that more people can have access to education opportunities. In May 2007 New Oriental Education Group reached an agreement with Nokia to build a mobile learning platform, from which students are able to visit specific New Oriental curriculum websites with their Nokia cell phone. Students can download English course contents and test preparation materials with their Nokia phone. The course contents and test preparation materials will be designed specifically for students to read and listen to. Shen and Ding predict that as mobile technology improves and the cost drops, more Chinese will use it for education and it will become an important complement of face-to-face education and online education.

While online learning is still gradually being made universal in China and mobile learning has barely started, Xue (2007) recommends that Chinese educators seriously consider the establishment of a ubiquitous learning environment. He believes the learning environment is changing significantly as ICT continues to develop. As ICT further develops with new products, an environment where learners can access uninterrupted services any time and anywhere is being built. He argues that online learning, mobile learning and ubiquitous learning are different development stages of DE. He thinks conceptually and technologically ubiquitous learning will be more flexible and more interactive, providing education opportunities to more people.

Although the development of Chinese DE has had a positive impact of providing more learning opportunities, it has its problems. In a study of nine influential and representative distance vocational and technical schools, Chen and Wang (2007) find that most of these schools' curricula are inadequate. Their teaching models are not always very reasonable, theories taught are often not closely connected to developing practices, support for student learning is not enough, and the interaction between instructors and students is low. Chen and Wang recommend that these schools strengthen the applicability of their curricula, increase the connection between theory and practice, encourage the development of advanced network curriculum suppliers, and construct a sharable content object reference model. They also recommend that the national government establish a standardized

vocational and technological credential acknowledgement system to encourage the development of vocational DE.

In a study comparing Chinese DE with British DE, Hao, Wang and Wang (2008) find that British DE has a more detailed and easier to operate system to ensure quality. The Chinese system is not as transparent as the British system. Chinese students do not receive feedback from their instructors in time. Chinese instructors tend to work in isolation, and the curricula they design may not always be appropriate for DE due to the lack of net teaching experiences. Hao, Wang and Wang suggest that Chinese DE instructors need to increase their net teaching competence and adopt a student-centered approach. They also suggest that governments at various levels increase the monitoring of quality assurance. They further suggest that a support mechanism be established to ensure the success of teaching and learning.

In comparing Chinese and British DE policies, Tian, Wang and Wang (2007) find that there is an obvious gap between Chinese policies and British policies, with Chinese policies not as sophisticated as those in Britain. Britain started using a national learning network in January 1998, but a Chinese national system is still to be built. In addition, the British government provides more financial support to DE, the British net is more extensive proportionately reaching more people, and British higher education institutions have more autonomy. Tian, Wang and Wang recommend that the Chinese government learn from the British system, but also consider the particular Chinese situation, and construct realistic, comprehensive, forward-looking and specific policies to promote DE.

In a study comparing DE in China and India, Gong (2007) finds that the development of DE in both China and India is quite uneven, with an obvious gap between more developed areas and less developed areas. However, Indian universities are more autonomous in providing DE, and Indian DE has a more established legal system regulating its development and operation. In addition, unlike Chinese DE which provides certificate and bachelor programs to Chinese students within China, one Indian open university has extended its services to 41 teaching centers in 35 countries, providing certificate, bachelor, master and doctorate programs. The Indian government pays more attention to the development of DE, planning to increase the portion of DE in higher education from the current 20 percent to 50 percent. Gong believes the Chinese government should let universities have more autonomy and provide more administrative support to the development of DE.

In the process of developing DE, Chinese higher educators need to consider their social responsibilities (Zhang & Wang, 2007). Zhang and Wang list some problems in the Chinese DE development. One of the problems was that in 2001 there was concern over the quality of some DE programs. From 2001 to 2005, a few incidents happened that exposed the less than desirable quality of certain DE programs. The Ministry of Education had to promulgate policies and adopt measures to regulate the admission of students into DE programs. As a result of this concern over quality, the Central Radio and TV University started evaluating its open education programs. Today people still have doubt about the quality of some DE programs.

Since 2004, Chinese students who study some general courses through DE have to take standardized national examinations administered by the Ministry of Education. These examinations are necessary in improving and ensuring the quality of DE programs. The Ministry of Education has established a national Internet registration system that acknowledges all successful DE graduates (Li, 2007).

Zhang and Wang (2007) argue that Chinese DE institutions' social responsibilities should reflect these institutions' uniqueness, involve not only moral discussion but also legal enforcement, and have specific contents

that create a reliable learning environment with judicial enforceability promoting educational equity. To fulfill DE institutions' social responsibilities, Zhang and Wang make three recommendations: 1) DE institutions should increase their cooperation to share teaching resources in meeting the needs of more learners, increasing their efficiency; 2) there should be a fair, detailed and reliable legal system regulating DE, ensuring quality; 3) a professional association should be formed to realize self-regulation, so that distance higher educators have a strong awareness of a code of conducts, institutions know their ethical framework, and all those working in DE are receptive of social monitoring. Zhang and Wang believe a legal system that defines the social responsibilities of everyone working in DE is necessary and feasible to ensure the quality of DE.

Although the marketization of Chinese DE has allowed it to develop very fast, effectively providing opportunities to individuals who otherwise have no access to higher education, it has some negative consequences (Huang, 2007). Huang points out that the marketization of DE leads to the drop of the quality of some DE programs. Since DE is mainly or exclusively financed by student tuitions, it is often beyond the reach of poor families, increasing inequity in education opportunities. The lowering of quality and the increase in inequity weakens the characteristic of education as public good, which is against the goal of building a harmonious society in China.

Huang (2007) points out that since the 1990's the gap between rich and poor in China has increased, the number of people in marginalized groups has become larger, members of these groups are increasingly unhappy with the government's economic reform, and the government's credibility has dropped. Having a fair and just society is the basis of a harmonious society. It is obvious that developing DE exclusively depending on student tuitions will not help to build harmony in society. To protect the interests of the public with an enforceable legal mechanism in the marketized DE, Huang contends that universities need more autonomy, different DE programs need to be clearly categorized and regulated accordingly, and a fair competition and free selection system needs to be established. Huang recommends that a national legal system protecting the interests of the public be constructed, a fair government bidding system be set up to encourage transparent competition, the cost of DE be kept at the minimum to provide more opportunities, government financial assistance be provided to students from poor families, tuitions be specifically capped, and the regulations protecting students' rights be improved.

CHALLENGES AND RECOMMENDATIONS

Chinese DE is a progressive phenomenon in need of continuous improvement. Although DE is developing rapidly, it is not meeting most people's expectations. Some of the challenges are summarized in the following paragraphs.

Chinese distance educators have been learning from international colleagues, but domestic experiences have not received sufficient study they deserve. There is a lack of high quality research to inform practice (Wang, 2008; Yang, Deng, & Cao, 2008). DE teaching models are few. Most DE courses stress content presentation and explanation, and instructors do not pay enough attention to the learning environment. The teaching model used most often is a mere transmission of information. A large part of DE content is a direct video broadcasting of instructors' lectures, with little or no interaction between instructors and students, or among students. In recent years there has been some improvement in these areas, and students now have more options. Still, DE so far is mainly a transmission of teaching resources and course content (Huang, 2007).

While network technology is

generally shared and there is an opportunity for cooperation, educators use it at their discretion. A broad system where educators can exchange and share teaching resources has not been established. Some institutions repeat what others have already done, which is a waste of financial and human resources (Hao, Wang, & Wang, 2008). This problem is not unique to Chinese higher education institutions (Cartelli, Stanfield, Connolly, Jimoyiannis, Magalhaes, & Maillet, 2008).

There is a shortage of educators with network teaching expertise. Most network instructors are regular instructors with little knowledge of DE and little network teaching experiences. They have heavy workloads of regular teaching and research and do not put enough time into meeting the needs of DE students. When DE expands quickly, quality is not assured (Chen & Wang, 2007).

Since DE students and instructors usually do not meet in person, network support services are vital. However, students are not provided sufficient guidance. Few of them receive feedback on their work from instructors, and there is little individualized teaching. When designing course materials, instructors tend to emphasize content over support (Chen & Wang, 2007; Yang, Deng, & Cao, 2008). In addition, fees are sometimes too high, networks are not always stable, and some students have misconceptions about distance education.

Similar to Cambodian, Laotian and Vietnamese DE programs (Baggaley, 2007), some Chinese DE programs do not meet students' needs and do not enjoy as high a reputation as face-to-face programs. Since most DE programs are paid for mainly or exclusively by students, equity is a serious issue owing to income disparities among students (Huang, 2007). Financial resources for DE lag behind those in developed countries, the level of standardization is low which makes sharing learning resources difficult, and there are obvious development gaps among different regions (Xian, 2007). Currently governments at various levels provide almost no financial support to DE at all (Yan, 2008; Yang, Deng, & Cao, 2008).

As more Chinese go abroad to receive education, more international students are studying in Chinese institutions. In 2007 there were approximately 195,000 international students in China from 188 countries (Zhang & Gong, 2008). The increase of international students going to China has surpassed the increase of Chinese students going overseas (Zhang, 2008). Distance education should play a role in helping the world better understand China. Overall, most Chinese distance educators have yet to recognize the benefits and challenges of internationalization (Ma, 2007).

To provide quality DE with ICT, the author makes several recommendations here. Chinese DE needs to aim at providing higher education, continuing education and life long learning opportunities to the masses. Tsinghua University has stated that it will focus on providing graduate programs and other high-level professional programs. Other universities could consider what they might do to fully utilize their strengths to meet people's varied education needs and to contribute to developing higher education in western China.

Chinese educators need to learn from developed countries' expertise, reflect on their own practices, analyze their own experiences, and construct DE theories appropriate for the Chinese context (Li, 2007). Universities that already provide DE should promote research on it and train DE instructors (Chen, 2008).

Network platforms need to be designed to emphasize the interaction among students, instructors, and administrators. Ideally, students should have an environment where they can freely select courses and receive support. For example, there is a need for a resource centre that would help students select courses and complete assignments. In developing a DE environment, universities need to consider their specific situations, and design affordable high quality curriculum resources that are user-friendly (Chen, 2008).

Finally, to regulate the DE sector effectively, to develop it efficiently, and to provide equitable learning opportunities to all citizens, the government needs to put investment in DE (Chen, 2007), play a greater role in planning the construction of a national DE system, and establish laws that both facilitate and monitor the development and operation of DE programs (Huang, 2007; Yang, Deng, & Cao, 2008; Zhang & Wang, 2007).

Chinese DE started later than that in developed countries, but it is making significant progress in the higher education sector. While there are problems in development and there is much to do before Chinese DE demonstrates the three characteristics described by Spector and Merrill (2008): effective, efficient and engaging, as Chinese distance educators learn from international colleagues, reflect on their own practices and conduct more research on DE in the Chinese context, DE will move forward and make its due contribution. As DE continues to develop, it will provide more education opportunities to people across China.

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