# Chapter 72
# ICT in Chinese Higher Education:
## Opportunities and Challenges

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## ABSTRACT

*A recent report from China Internet Network Information Center indicates that by the end of June 2015, 668 million Chinese have used the internet, which places China as the country with the most internet users in the world. As more Chinese get online, the internet has been integrated into providing education in China, where the age group using the internet the most often is between the ages of 20 and 29. Many of these youth are higher education students. With 34.6 million students the Chinese higher education system is the largest in the world, in which a significant proportion of the students' learning has been impacted by information and communication technology (ICT). The purpose of this article is to provide an overview of how the development of ICT in China has influenced higher education, what opportunities ICT offers for higher education, and what challenges Chinese face in further developing higher education with ICT.*

## INTRODUCTION

According to the report from China Internet Network Information Center, by the end of June 2015, 668 million Chinese, 48.8 percent of the country's population, have used the internet (China Internet Network Information Center, 2015). This places China as the country with the most internet users in the world. As more Chinese get online, information and communication technology (ICT) is becoming more important in society and in the life of ordinary Chinese. In addition, ICT has also been integrated more into providing education. The age group that uses the internet the most often is the group of 20-29 years old youth, of whom many are higher education students (China Internet Network Information Center, 2015). The Chinese higher education participation rate is 34. 5 percent, and with 34.6 million students the Chinese higher education system is the largest in the world (Ministry of Education, 2014).

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A significant proportion of these students' learning has been impacted by contemporary information and communication technology (ICT). The purpose of this article is to provide an overview of how the development of ICT in China has influenced the progress of higher education, what opportunities ICT offers for higher education, and what challenges Chinese face in further developing higher education with ICT. To provide such an overview, I conducted an extensive literature review reading Chinese and English journals to locate articles reporting research findings that were useful when I constructed this overview.

China has a long history of education if Confucius (551–479 BC) is considered as the beginning of its education. However, when the People's Republic of China was founded in 1949 most Chinese were illiterate. After 1949 elementary and secondary education expanded quickly. Today elementary education and junior secondary education is almost universal. Senior secondary education participation rate was 86 percent in 2013 (Ministry of Education, 2014), and it is growing. In comparison with elementary and secondary education, higher education developed more slowly. For three decades the Chinese higher education participation rate remained around 3 percent of the age group (Guo, 2011). After China opened up to the world in 1978 higher education developed faster. However, at 18 percent the 2012 Chinese entry rate into tertiary-type A education is lower than 58 percent, the average of Organization of Economic Co-operation and Development countries (OECD) (2015). In June 2015 approximately 9.4 million Chinese took the higher education entry examination, but only about 7 million would be admitted in the fall (CCTV 4, 2015). It seems that the current supply of higher education is not meeting the demand.

This article is divided into four sections. Following the introduction section, the second section presents the development of ICT in Chinese higher education and accompanying opportunities. The third section describes and analyzes the challenges Chinese face. The fourth section is the epilogue.

## DEVELOPMENT AND OPPORTUNITIES

To make higher education more accessible, in 1999 four Chinese universities started using information and communication technology (ICT) to provide distance education programs to students who otherwise were not able to attend higher education institutions. Today 68 universities are approved by the Ministry of Education to provide distance education programs with ICT (Zheng, 2015). The largest university providing distance education programs with ICT is the Open University of China. In addition, the vast majority of Chinese universities provide programs or courses utilizing ICT. The admission rate for distance education programs is higher than that for face-to-face programs. A significant proportion of distance education program students are people who have not been successful in entering a face-to-face program, because their higher education entry examination grades are not high enough (Xiong, Xie, & Wu, 2010). Distance education program students tend to be older, many of them already have a job, and many of them study for a certificate or diploma, not a degree.

ICT has been used to make education available for more Chinese. Everyday there are three new online education businesses appearing in China. The coverage of online education extends from early childhood education to higher education. The annual growth rate of online education is approximately 30 percent. It is estimated that the market scale of online education in 2015 exceeded 160 billion yuan (approximately 25 billion dollars) (Yin, 2014). By 2015 there are about 2,400 businesses engaged in online education, which hire approximately 80,000 people and offer more than 100,000 courses (Wang, Cao, & Lu, 2015). More than two thirds of the investment in online education is from the private sector. Although a huge amount has been invested in online education, there is a significant digital divide