Chapter 13
Vocational Education Paradigm Transformation Through Information Technology:
An Innovation Case Study of China

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ABSTRACT

The advancement in information technology has transformed the world. There has been a tremendous impact of information technology on contemporary vocational education. This chapter highlights the impact of information technology on vocational education paradigm in China. In general, education paradigm has gone through three stages: empirical imitation education, computer-aided education, and data-driven education. China's vocational education is experiencing a transformation of paradigm from teaching support to learning support. This work is focused on how to construct a learning support paradigm in China's vocational education system through information technology. The Open University of China creating an innovative approach to learning support paradigm is discussed and three key elements of strategy for constructing a learning support paradigm of vocational education through information technology are presented in the chapter.

1. INTRODUCTION

EDUCAUSE (2019) provides a source how information technology in education has impacted education paradigm transformation. For over a decade these yearly reports detail those technologies' impact on colleges and universities (Gibson et al., 2018). This report describes the trends expected to have a significant impact on the ways in which colleges and universities approach their core mission of teaching, learning, and creative inquiry. Institutions of higher education are actively developing new strategies to rethink how they fulfill their mission. Not only are students more diverse, but a specific aspect of that

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diversity is the "new majority learner," who is older, is more likely to be balancing work and family with college, and has vastly different needs from those of a traditional-aged student navigating a residential college experience. Institutions of higher education are rethinking how to meet the academic and social needs of all students seeking credentials or degrees. This shift to student-centred learning requires faculty and academic advisors alike to act as guides and facilitators (The Horizon Reports of the New Media Consortium NMC, 2019).

China's vocational education industry has made great progress since China's opening-up and reform policies of mid-1980s. Currently China's education industry scale is the largest in the world. According to statistics from the Ministry of Education of China (MOE), there are 11,718 vocational colleges and universities in China in 2018. The annual enrollment of students is 9.3 million and the total number of students at school is 26.9 million. Of these, there are 10,300 secondary vocational schools, whose annual enrollment of students is 5.6 million and the total number of students at school is 5.5 million. There are 1,418 higher vocational schools, whose annual enrollment of students is 3.7 million and the total number of students at school is 11.3 million (MOE, 2019).

China's vocational education has a trend of online and lifelong education. The scale of vocational education is close to that of higher education. Since 2012, in order to cope with the requirement of human resources and provide talent support for national strategy, the State Council, the Ministry of Education, and the Ministry of Human Resources and Social Security of China, as well as related governments have been issued a series of policy measures, continuously promoting vocational education system by integrating multiple modes including university-enterprise cooperation, Internet Plus, life-long education, etc. At present, China's vocational education system is gradually complete.

Information technology applications in teaching and learning include enhancement of its presentation, design of different processes and phenomena, activation, individualization and differentiation of learning, formation of conditions for organizing independent educational activity, communication facilitation, and creative approach development. Informatization allows to modernize aims, contents, methods, means and organizational forms of teaching and learning; to facilitate the development of students' individual abilities and their personal qualities; to promote forming their cognitive abilities and aspiration for self-perfection; to provide the integrity of studying the phenomena of reality, indissoluble intercommunication between natural and technical sciences, the humanities and art; permanent dynamic upgrade of the content, forms and methods of education (Lytvyn et al., 2020).

Online vocational education has prominent advantages and the market scale is gradually expanding based on the development of information technology. The advantages of online vocational education are reflected in three aspects. First, it can make full use of the fragmented time, not limited by the scene and site. Second, the capital input for online vocational education is relatively low, and economic factors are no longer a burden. Thirdly, online vocational education can be targeted to meet diversified demands. From 2012 to 2019, China's online vocational education market grew rapidly, from 18.12 billion yuan to 80.64 billion yuan, with a compound annual growth rate of 23.77%.

Educational informatization 2.0 is committed to the deep integrative innovation of information technology and education paradigm. Hardware and software products, represented by IWB (Inside-the-Waistband Holsters), an interactive intelligent tablet, are in line with the trend of educational paradigm reform and development. In the context of Chinese government's continuous support for vocational education, the investment in education informatization is further increased, and these measures further promotes the in-depth application of information technology products in vocational education.