# CURRENT STATUS AND OUTLOOK OF HIGHER EDUCATION DIGITAL TRANSFORMATION IN CHINA

*Chunlei Zhang[1]*

ABSTRACT

The requirements of technological advancement, trends in the development of higher education, including the epidemic and other features of the times have prompted the digital transformation of education to become inevitable. Digital transformation can help higher education to create new types of governance capacity and provide quality higher education resources to more students and the public. This article points out that the digital transformation of China's higher education is characterized by multi-dimensional, multi-level, and multi-regional development, as well as the lack of top-level design and overall planning, and a low level of digital application. Digital governance, digital information platform building and institutional research are key components of the digital transformation. Cooperation between educational administrations, professional societies and universities can accelerate the construction of digital platforms for higher education and enhance the sharing of digital resources. Also, strengthening the research function of institutions to achieve digital strategic goals can help to enhance
the practical value of digital transformation in the transformation of higher education.

Key Words: digital transformation, higher education, China.

1 Postgraduate student, Southern Federal University, Russia Junior Fellow, Office of International Exchange and Cooperation, Henan University of Economics and Law, Zhengzhou, China, 450000. ORCID: https://orcid.org/0000-0003-3243-2521 Email: isobelzcl@163. com

INTRODUCTION

The digital transformation of higher education is not a completely new topic; the topic has been accompanied by the advancement and development of digital technologies based on the Internet. Universities were pioneers in the use of digital technology, promoting digital operation and management in the 1990s in terms of administrative systems, examination systems, human resources, and finance. Systematic educational solutions, such as learning management systems (LMS), mooc, course websites and library systems, began to be implemented gradually after 2000. Among them, MOOCs have even made a breakthrough since 2012(Kaplan & Haenlein, 2016).

The digital transformation of higher education is a disruption in the information age that entails changing mindsets and rebuilding digital activities integrated in learning, teaching and organisation with the use of information technology(Brooks & McCormack, 2020). Digital transformation as a new element of society will therefore fundamentally change entire industries, organisations and individuals.

## The state of digital transformation in universities worldwide

The post-2020 epidemic has led to a rapid shift from physical to digital teaching and learning in the vast majority of universities worldwide in a very short space of time. This has made a huge difference to school administrators, teachers and students alike. The jury is still out on its long-term impact, but many researchers believe they will be far-reaching and amount to a digital transformation of higher education (Dick et al., 2020). The first is the intensification of the trend towards 'counter-globalisation' and the forced reversal of the willingness to study and educate across borders; the second is the shift to online education, which has to some extent reduced the original scale of higher education; and the third is the reshuffling of the internationalisation of higher education(Yang, 2021).

The digitalisation process of higher education started before the New Coronavirus epidemic, but there are significant differences between developed and developing countries in facing the digital transformation of higher education. The European and American countries have accumulated a deep industrial economic base and a first-mover advantage in the information field after the industrial revolution, and new forms of higher education organisation have emerged. In 2016, the European Commission proposed the Digitising European Industry Strategy(European Union, 2017) as a way to promote the development of Europe's digital economy and the development of digital talent. It has also issued a number of successive documents highlighting the urgent need for digital transformation, including Shaping Europe's Digital Future and Digital Education Action Plan 2021-2027(European Commission, 2020).
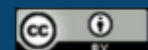
The Council of Europe has identified four main objectives of the competence model for higher education: acquisition of skills for the labour market, preparation for life as an active citizen in a democratic society, personal development, and maintenance of an advanced knowledge base(European Union, 2018). The key competencies for students to learn in higher education are innovation skills, interpersonal skills, knowledge management skills, communication skills, organizational skills, professional development skills and ICT skills in use(Conchado et al., 2015).

The pandemic of New Coronavirus has forced millions of students to take online courses in an unprecedented global learning experiment(Zimmerman, 2020). The widespread disruption of online teaching or education brought a palpable sense of fragmentation and alienation from space. With the strong push of the epidemic, the original offline teaching schedule was completely disrupted and suddenly turned online(Tesar, 2020). It is difficult for students to enter a sensory immersion environment when faced with a computer or other communication tool; and studying online alone for long periods of time makes it difficult for students to acquire the social and communication skills acquired in an offline learning environment(Zhong et al., 2014).

For most developing countries, in addition to dealing with public health crises, they are also faced with the dual challenges posed by the epidemic and the technological revolution. These common challenges have, to a certain extent, slowed down or hindered the transformation of digital higher education in the following three ways.

Firstly, the global higher education market will undergo a new round of survival of the fittest. For low- and middle-income developing countries, where educational resources are already inadequate, this round of reshuffling will put underfunded and less influential institutions of higher education in a very precarious position, and will further exacerbate the "wealth gap" in the global higher education sector. In the new pneumonia epidemic and post-epidemic era, the resources required for the digital transformation of higher education include hardware facilities, infrastructure, financial investment and faculty manpower.

Secondly, the sudden test of the epidemic added additional costs to the education of schools and the education of students. During this period, weak infrastructure, confusion in the market for online education platforms, lack of planning of online materials and textbooks, and ineffective teaching rules were evident in many universities(B. Zhong et al., 2020). From the supply side of the school, the investment and upgrading of basic hardware facilities requires a large amount of capital investment; from the receiving side of the students, it requires personal expenses for computers, mobile phones, internet, etc.

Thirdly, before the New Coronavirus epidemic, the idea of global digital literacy and digital teaching was in its early stages of exploration and rarely received sufficient attention from curriculum authorities and lecturers. After the epidemic, many teachers were forced to engage with online teaching and learning by doing, gradually improving their information and communication technology (ICT) skills. Here is the summary different levels of ICT skills that educators in university need to learn in Table 1(UNESCO,2018).

Table 1: Dimensions and objectives of ICT competence development for university teachers by UNESCO

| | Training Goals | | |
|---|---|---|---|
| | Junior level | Medium Level | High level |
| Hybrid teaching ability | To develop teachers' awareness of ICT competencies and improve understanding of new pedagogies | To traine teachers in the use of ICT-based teaching models | To guide teachers to use ICT to explore new teaching models to use ICT to explore new Teaching models |
| ICT Managent | To change traditional thinking about education management and encourage the use of ICTtools | To master ICT tools to empower education management | To innovate management systems in conjunction with ICT in dustry frontiers |
| ICT Knowledge and ability | To recognize scenarios for the use of ICT technology in teaching and learning | To acquire subject knowledge in the field of ICT and develop teachers' skills in the application of relevant tools | To use ICT knowledge for innovative research |

## The current situation and problems of digital transformation in Chinese universities

The digital transformation of higher education needs reasonable planning and layout from a strategic point of view. At present, the majority of universities lack overall planning and top-level design for their informatization construction, and do not view the school's informatization construction from a strategic height, and do not take informatization construction as an important work of the school. Few universities include the digitalization construction of the school in the medium and long-term development plan of the school. There are many levels, departments and specialties in universities, and each department, division and speciality builds its own information system according to its own business needs, resulting in the duplication of information system construction and serious waste of resources.

The digital transformation of higher education is broadly divided into three different stages of
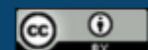
development: digital conversion, digital upgrade and digital transformation. The first stage of digital transformation focuses on the conversion of physical information to digital information, which mainly corresponds to the construction of hardware and software platforms. The second phase of digital upgrading focuses on the management of digital information and the operation of the system, mainly corresponding to the construction of a shared network platform. The third stage of digital transformation is to explore new and effective operating models, and to explore various development models based on their own circumstances and strengths. Developing countries at different stages of development should adopt measures that are in line with their current situation and patterns of development. Improving the information and communication technology (ICT) competencies of higher education teachers is a priority that needs to be addressed at every stage of the digital transformation of higher education. This process does not happen overnight.

## CONCLUSION

Digital technology, as a means, a tool and even a mindset, is subtly influencing the development of higher education, and while it opens up opportunities for higher education governance, it also poses some challenges. At present, as the use of digitalisation in education is still in its developmental stage, there are still issues such as a lack of digital literacy for higher education governance actors. Although higher education has a lagging nature compared to other sectors, governance in higher education must keep up with the times. While digitalisation has been widely used in business, finance and healthcare sectors, its application in higher education    is still in its early time, and the lack of digital information access, analysis, application and forecasting capabilities of higher education governance staff hinders the effective promotion of higher education governance.

The digital transformation of global higher education is an irreversible and inevitable trend   in the post-epidemic era. While the rapid reshuffling of the digital revolution is taking place, global inequality in educational resources is increasing, with developing countries facing challenges such as increased funding, higher hardware and software requirements, and higher  teacher capacity requirements. However, government departments, higher education institutions, social organisations and businesses around the world are all seeking effective ways to transform. However, in the face of the digital transformation dilemma facing developing countries, including China, it will take the combined efforts of higher education institutions, international organisations, businesses and higher education managers and practitioners around the world to drive a comprehensive digital transformation of the world's universities.

## Reference

Brooks, C., & McCormack, M. (2020, June 15). Driving Digital Transformation in Higher Education. Library.educause.edu. https://library.educause.edu/resources/2020/6/driving-digital-transformation- in-higher- education

Conchado, A., Carot, J. M., & Bas, M. C. (2015). Competencies for knowledge management: development and validation of a scale. Journal of Knowledge Management, 19(4), 836–855. https://doi.org/10.1108/jkm-10-2014-0447

Dick, G., Akbulut, A. Y., & Matta, V. (2020). Teaching and learning transformation in the time of the Coronavirus crisis. Journal of Information Technology Case and Application Research, 22(4), 243–255. https://doi.org/10.1080/15228053.2020.1861420

European Commission. (2020). Shaping Europe's Digital Future [Review of Shaping Europe's Digital Future]. Publications Office of European Union.

European Union. (2017). Digitising European Industry [Review of Digitising European Industry]. European Union. https://ec.europa.eu/futurium/en/system/files/ged/dei_wg2_final_report.pdf

European Union. (2018). COUNCIL RECOMMENDATION of 22 May 2018 on key competences for lifelong learning. Official Journal c 189 of the European Union, 61.

Kaplan, A. M., & Haenlein, M. (2016). Higher education and the digital revolution: About MOOCs, SPOCs, social media, and the Cookie Monster. Business Horizons, 59(4), 441–450. https://doi.org/10.1016/j.bushor.2016.03.008

Tesar, M. (2020). Towards a Post-Covid-19 'New Normality?': Physical and Social Distancing, the Move to Online and Higher Education. Policy Futures in Education, 18(5), 556–559. https://doi.org/10.1177/1478210320935671

UNESCO (2018). UNESCO ICT Competency Framework for Teachers. UNESCO Digital Libiary. Retrieved April 19, 2022, from https://unesdoc.unesco.org/ark:/48223/pf0000265721

Yang, H. (2021). Prospects for the Internationalization of Higher Education in the Wake of Covid Epidemic. Jiangsu Higher Education, 2021(1), 69–73.

Zhong, B., Zhu, D., & Li, L. (2020). Educational Governance in the context of A major Epidemic. Chongqing Higher Education Research, 8(2), 5–24.

Zhong, Z., Huang, L., Fan, Y., & Song, L. (2014). Distance Education: Present Situation%2C Challenge and Development An Interview with Professor Michael G. Moore. China Educational Technology, 2014(8), 14–18.

Zimmerman, J. (2020, March 10). Coronavirus and the Great Online-Learning Experiment. The Chronicle of Higher Education. Retrieved April 19, 2022, from https://www.chronicle.com/article/coronavirus- and-the-great-online-learning-experim ent/