

# The Influence of Digital Transformation of Higher Education on China University Teaching Management

Xue Guan

Sichuan Normal University; Chengdu, 610066, China  
Academy of Global Governance and Area Studies, Chengdu, 610066, China

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**Abstract:** With the rapid development of information technology, higher education is welcoming the era of digital transformation. This paper discusses the influence of the digital transformation of higher education on the management of China university teaching, and through the analysis of the relevant background, process and effect, deeply analyzes the comprehensive changes of the digital transformation on the education system. Digital transformation enables universities to build more advanced digital infrastructure, strengthen the digital management of teaching resources, and achieve a significant improvement in teaching efficiency. The comprehensive sharing and collaboration of information also provides more opportunities for cooperation between teachers and students, and promotes the overall upgrading of education and teaching. However, digital transformation has also brought a series of challenges. Information security, digital literacy of teachers and students, adjustment of management system and other issues need to be solved urgently. In the process of digital transformation, universities need to adopt practical strategies to improve the digital literacy level of teachers and students, ensure information security and flexibly adjust the management system. The digital transformation of higher education has a dual impact on the management of China university teaching, which not only brings brand-new opportunities for teaching, but also presents a series of challenges that need to be taken seriously. Only through comprehensive and in-depth understanding and response can universities better meet the future educational challenges in the digital age.

**Keywords:** University Teaching Management; Higher Education; Digital Transformation.

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## 1. Introduction

With the rapid development of information technology, digital transformation is profoundly changing the face of global higher education. In China, the digital transformation of higher education is not only the upgrading of technology, but also a revolution of educational philosophy and management system. The wide application of digital technology provides unprecedented opportunities and challenges for universities, especially in teaching management. Digital transformation provides a new opportunity for upgrading and optimizing the university teaching system [1].

One of the most remarkable changes brought by digital transformation to university teaching management is the comprehensive popularization and sharing of information [2-3]. By establishing a unified digital platform, universities can realize centralized management and efficient utilization of teaching resources, thus maximizing the utilization efficiency of teaching resources. This includes not only the digitization of traditional teaching resources such as teaching materials and curriculum design, but also the information of students and the data of subject research. Digital transformation makes universities more flexible in managing and using information, and provides teachers and students with a wider range of academic resources and information support [4]. At the same time, digital transformation has also introduced more innovative teaching methods and tools into university teaching management. The application of digital means, such as online teaching, remote collaboration and virtual experiment, has broken the time and space limitation of traditional classroom teaching and provided students with a more flexible and personalized learning experience [5-6]. Therefore, university teaching management is facing the

requirements of higher teaching quality and effect, and needs to pay more attention to innovating teaching content and methods to enhance the effectiveness of education.

However, digital transformation has also brought a series of challenges, such as information security, the improvement of teachers and students' literacy, and the adjustment of management system. These challenges require universities to seriously consider and formulate corresponding coping strategies in the process of digital transformation, so as to ensure the smooth progress of digital transformation and bring substantial improvement to university teaching management. The digital transformation of higher education is profoundly changing the face of management in China university teaching, providing universities with unprecedented opportunities for development. However, how to overcome all kinds of challenges in digital transformation and give full play to the advantages of digital technology will be an important topic for university teaching management. This paper will provide useful reference and suggestions for the future digital transformation of universities through in-depth research on the influence of digital transformation.

## 2. Background of Digital Transformation

With the continuous progress of science and technology, higher education institutions around the world are experiencing a wave of digital transformation [7]. The rapid development of information technology provides more tools and opportunities for universities, making the education process more flexible and efficient, and better connecting with the industry. Higher education institutions around the world have adopted digital tools such as online education, virtual laboratory and learning management system to meet students' diverse learning needs and improve teaching

efficiency. The history of digital transformation of higher education in China can be traced back to the end of last century. From the initial electronic classrooms and libraries to today's online courses and remote collaboration tools, China University is undergoing a comprehensive upgrade from the equipment level to information and intelligence. In recent years, under the guidance of the government, universities have carried out digital infrastructure construction to promote the comprehensive application of information technology in teaching, research and management.

Digital transformation is not only a technological change, but also a profound educational concept and cultural renewal. It covers the all-round transformation process from the digitalization of teaching resources to the reform of management system, and promotes the individualization, differentiation and intelligence of education in universities [8-9]. Digital transformation is not only to meet the requirements of the times, but also to cultivate modern talents with digital literacy, so that higher education can better serve the development needs of society, industry and country.

### **3. Analysis of Influencing Factors**

#### **3.1. Advantages and opportunities**

Digital transformation has brought great advantages of teaching resources to university teaching management. Through the digital platform, universities can better integrate and manage teaching materials such as textbooks, courseware and multimedia resources. This makes it easier for teachers and students to obtain and share educational resources, thus improving teaching efficiency. For example, teachers can use the online platform to upload and share teaching materials, while students can access these resources anytime and anywhere, making teaching more flexible and convenient.

Digital transformation has introduced a variety of teaching methods for universities, greatly enriching students' learning experience. Online teaching, virtual laboratory, remote collaboration and other tools make teaching no longer restricted by traditional classrooms, and students can learn in a more vivid and interactive way. For example, the virtual laboratory allows students to conduct experiments in a virtual environment and improve their practical ability, while online discussion and cooperation platforms promote collaborative learning and communication among students.

Digital transformation provides personalized learning opportunities for universities. Through the analysis and feedback of the learning management system, teachers can better understand the learning situation of each student, so as to provide targeted counseling. Such personalized learning support is helpful to meet different students' academic interests and learning rhythm, and improve the learning effect. For example, the learning management system can recommend corresponding subject resources according to students' learning performance to meet personalized learning needs.

#### **3.2. Challenges and problems**

Digital transformation has brought a lot of online storage and transmission of teaching and student data, which at the same time increases the risk of information security. Universities are facing severe challenges in protecting students' privacy, preventing network attacks and ensuring data integrity [10]. For example, once the database of an educational institution is hacked, the disclosure of students'

personal information will have a serious impact on the reputation of individuals and schools. Therefore, strengthening information security management has become one of the urgent problems to be solved in the process of digital transformation.

Digital transformation requires teachers and students to have certain digital literacy and be proficient in using digital tools and platforms. However, due to age, educational background and other reasons, some teachers may be unfamiliar with the application of new technologies, and students may also have the problem of digital divide. Therefore, improving the digital literacy of teachers and students has become an urgent task in the digital transformation. The provision of training programs, workshops and online educational resources can help improve the digital skills of teachers and students.

Digital transformation is not only a technical change, but also a corresponding adjustment of the education management system. The traditional educational management model may not be able to adapt to the changes in demand brought about by digital transformation, including teaching evaluation, academic evaluation, intellectual property management and so on. Therefore, universities need to innovate and adjust the management system to better support the implementation of digital education.

### **4. A Case Study of Digital Management Transformation in China University Teaching**

In this study, a comprehensive university in China is selected as the case study object, which has a large scale, multiple disciplines and tens of thousands of students. The background of digital transformation includes catering to the trend of social informatization, improving teaching quality and enhancing students' learning experience. The original intention of the university's digital transformation mainly includes improving teaching efficiency and promoting innovative teaching methods. The goal is to build a digital campus and realize all-round information management.

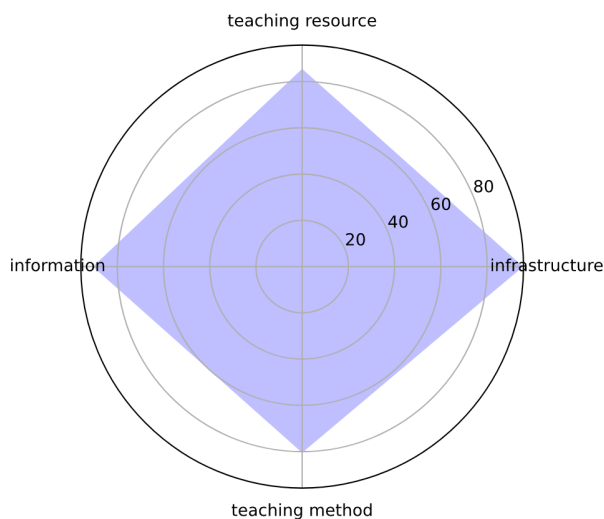
In the initial stage of digital transformation, the university upgraded its network, built a high-speed and stable campus network, and built a powerful data center to support the storage and management of digital teaching resources. By introducing the digital teaching material platform, the university has realized the digitalization of teaching materials, and teachers and students can obtain course-related materials through the online platform, which has promoted the transformation of traditional teaching materials into digital resources.

The university has built a unified digital platform, integrated educational administration, student information, library and other systems, and realized the comprehensive sharing of information. Teachers can cooperate better, and students can get learning materials more conveniently. Online courses and virtual laboratories are introduced, and remote collaboration is realized through video conference platform. This makes the interaction between teachers and students more flexible, and students can participate in experiments and discussions in different places.

Digital transformation has improved teaching efficiency, improved students' learning experience and more frequent interaction between teachers and students. However, some teachers have differences in the use of digital tools and need

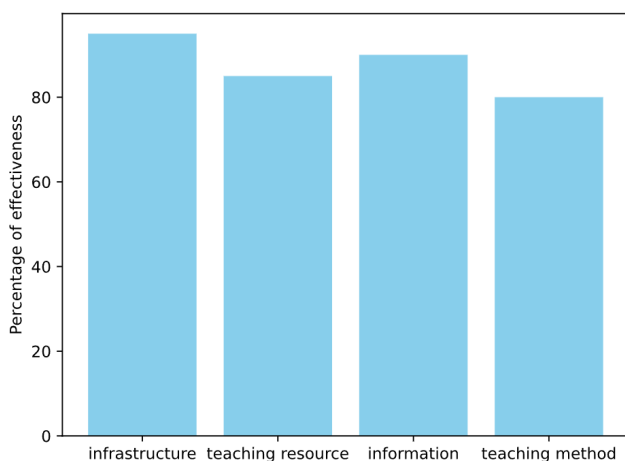
more training; There are still potential risks in information security, and it is necessary to continuously strengthen network security measures.

Figure 1 below shows the results achieved in different aspects of digital transformation.



**Figure 1.** Achievements made in different aspects of digital transformation

The effect of building digital infrastructure has reached 95%, which shows that the university has achieved great success in building digital infrastructure. This may include network upgrading and data center construction, which provides strong support for digital transformation. The digitization effect of teaching resources is 85%, which shows that there is some success in the digitization of teaching resources, but there is still room for further improvement. This may involve the digitization of teaching materials, courseware and other resources, which needs to be promoted continuously. The effectiveness of information sharing and collaboration is 90, which shows that the university has achieved good results in information sharing and collaboration. The construction of digital platform enables teachers and students to better cooperate and share information. The introduction effect of innovative teaching methods is 80%, which shows that the introduction of innovative teaching methods has achieved certain results, but it may need further promotion and training to improve the acceptance of new methods by teachers and students.



**Figure 2** Shows the percentage of effectiveness in all aspects more intuitively.

The construction of digital infrastructure has the highest percentage, which shows that this aspect has achieved the most remarkable results, and the construction of digital infrastructure has provided a solid foundation for the whole digital transformation. The digitalization of teaching resources is located in the upper middle position, which shows that the digitalization of teaching resources has achieved remarkable results, but there is still some room for improvement compared with the infrastructure. The percentage of information sharing and collaboration is in the middle, which shows that a good balance has been achieved in information sharing and collaboration. The construction of digital platform enables teachers and students to better share information and work together. The introduction percentage of innovative teaching methods is low, which shows that there are challenges in the introduction of innovative teaching methods, and more training and publicity may be needed to improve the recognition of new methods by teachers and students.

## 5. Suggestions on Digital Transformation of Management in China University Teaching

Although digital transformation has brought many opportunities for universities, it is also accompanied by a series of challenges. In the digital transformation of management in China university teaching, we should strengthen the construction of network security, introduce advanced security technology and set up a professional team to monitor and prevent potential network attacks. Organize regular network security training to improve the network security awareness of all teachers and students. Establish a digital training program, including training courses for teachers and students, to help improve the application level of digital technology. Establish a digital literacy certification system to encourage teachers and students to participate in training. In view of the digital transformation, the teaching management system is adjusted and innovated. Establish an interdisciplinary digital transformation team to promote the effective integration of digital transformation and school management system.

In the digital transformation of university teaching management, it is necessary to carry out digital training for teachers and students at different levels, covering common digital tools, online teaching platforms, information search and so on. Through workshops, online training courses and other forms, teachers and students can improve their proficiency in the application of digital technology. Create a digital learning resource center to provide rich digital learning resources and online training materials. Provide convenience for teachers and students to learn anytime and anywhere, and encourage independent learning and practice.

In addition, a special leading group should be set up to be responsible for the planning, coordination and promotion of digital transformation. Ensure that the digital strategy is consistent with the overall development strategy of the school. Establish a digital transformation guidance institution to provide professional consulting services for universities. Organize seminars and experience exchanges regularly to promote digital transformation and share experiences among universities. Establish strategic partnerships with technology companies and innovative enterprises to jointly promote the

innovative application of digital technology. Through the cooperation of Industry-University-Research, the digital transformation will be ensured to better serve the needs of the industry.

## 6. Conclusions

With the rapid development of science and technology, the digital transformation of higher education has made remarkable progress in China University, and has had a profound impact on teaching management. The digital transformation of higher education has a positive and far-reaching impact on the management of China university teaching. Digital transformation not only improves teaching efficiency and students' learning experience, but also provides new impetus for the future development of universities. However, in the process of digital transformation, universities need to fully realize the challenges and solve them through practical measures to ensure the smooth progress of digital transformation and pave the way for the future of higher education.

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