

Research Status of Cultural Practices in Intelligent Innovation of University Teaching Management under the Digital Background: A Comparative Study between China and Foreign Countries

Yun Zhang

College of Physics and Electronic Engineering, Sichuan Normal University, Chengdu, Sichuan 610101, China

Abstract: This paper explores the research status of cultural practices in intelligent innovation of university teaching management under the digital background. Through literature analysis and case studies, the paper elaborates on the challenges and opportunities faced by university teaching management in the digital era, analyzes the current status of cultural practices in intelligent innovation in domestic and foreign universities, and compares the differences in cultural concepts, practice models, and effectiveness evaluation between Chinese and foreign universities. The study finds that both domestic and foreign universities have made significant progress in intelligent innovation, but there are differences in cultural concepts and practice models. This paper aims to provide theoretical references and practical guidance for promoting intelligent innovation in university teaching management.

Keywords: Digitalization, University Teaching Management, Intelligent Innovation, Cultural Practices, Comparative Study.

1. Introduction

With the rapid development of information technology and the deepening of digital transformation, university teaching management is facing unprecedented opportunities and challenges. Intelligent innovation has become an important approach to improving the quality and efficiency of university teaching management, and cultural practices play a key role in this process. This paper aims to explore the research status of cultural practices in intelligent innovation of university teaching management under the digital background, and to provide references and insights for promoting intelligent innovation in Chinese university teaching management through comparative analysis of practical experiences from domestic and foreign universities.

2. Background and Significance of Intelligent Innovation in University Teaching Management under the Digital Background

The digital era has brought profound changes to university teaching management. The widespread application of information technology has made the acquisition and sharing of teaching resources more convenient, while also posing challenges to traditional teaching management models. Universities need to adapt to the digital environment, innovate management models, and improve management efficiency and service quality. Intelligent innovation provides new solutions for university teaching management. Through the application of technologies such as artificial intelligence and big data, teaching management can achieve precision, personalization, and intelligence.

Cultural practices play an important role in the intelligent innovation of university teaching management. They not only influence the direction and process of intelligent innovation but also determine the acceptance and

sustainability of innovation outcomes. Good cultural practices can promote the understanding and acceptance of intelligent innovation among teachers and students, and drive the implementation and application of innovation outcomes. Therefore, exploring the current status of cultural practices in intelligent innovation of university teaching management has significant theoretical and practical significance.

3. Current Status of Cultural Practices in Intelligent Innovation of University Teaching Management in China

In recent years, Chinese universities have made significant progress in intelligent innovation of teaching management and have actively explored cultural practices. The following elaborates on practical explorations, typical cases, challenges, and issues:

3.1. Practical Explorations

3.1.1. Construction of Intelligent Teaching Management Platforms

Many universities have actively built intelligent teaching management platforms to integrate teaching resources, optimize management processes, and improve management efficiency. For example, Tsinghua University developed the "XuetangX" platform, which offers online courses, teaching resources, learning analytics, and supports personalized and precision teaching [1].

3.1.2. Data-Driven Teaching Management Models

Universities have begun to use big data technology to analyze teaching data, providing data support for teaching decisions, evaluations, and reforms. For example, Peking University developed the "Peking University Teaching Big Data Platform," which analyzes students' learning behaviors and outcomes to provide teachers with insights for improving teaching [2].

3.1.3. Personalized Learning Support Services

Some universities have actively explored personalized learning support services, offering customized learning resources and paths for students. For example, Zhejiang University developed the "Study at ZJU" platform, which recommends personalized learning resources and plans based on students' interests and progress [3].

3.2. Typical Cases

Many Chinese universities have conducted various practices under the background of intelligent teaching management. For example, Tsinghua University integrates the educational philosophy of "student-centeredness" into the design of its intelligent teaching management system, providing personalized learning support and services. The "Smart Teaching Platform" developed by Tsinghua University supports functions such as course selection, online learning, and interactive communication, offering students a convenient and efficient learning experience [4]. Similarly, Zhejiang University adheres to its motto of "Seeking Truth and Innovation," encouraging teachers and students to actively participate in the innovative practices of intelligent teaching management. For instance, the "Zhiyun Classroom" platform developed by Zhejiang University supports blended online and offline teaching, providing flexible and diverse teaching methods [5].

3.3. Challenges and Issues

Although Chinese universities have taken significant steps in the cultural practices of intelligent teaching management, they still face severe challenges and urgent issues, mainly in the following three aspects:

Transformation of Traditional Management Concepts: Some universities still hold traditional concepts that prioritize management over service and norms over innovation, which constrains the development of intelligent innovation [6].

Improvement of Digital Literacy Among Teachers and Students: Some teachers and students are not yet proficient in operating and applying intelligent teaching management systems, affecting the effectiveness of these systems [7].

Data Security and Privacy Protection: Intelligent teaching management involves a large amount of personal information of teachers and students, and ensuring data security and privacy protection is a significant challenge [8].

4. Current Status of Cultural Practices in Intelligent Innovation of University Teaching Management in Foreign Countries

Foreign universities have accumulated rich experience in intelligent innovation of teaching management and have formed unique models and characteristics in cultural practices. The following elaborates on practical explorations, typical cases, challenges, and issues:

4.1. Practical Explorations

4.1.1. Wide Application of Learning Analytics Technology

Foreign universities actively use learning analytics technology to analyze students' learning behaviors, processes, and outcomes, providing data support for teaching and learning. For example, Arizona State University developed

the "eAdvisor" system, which uses learning analytics to offer personalized learning advice and early warnings to students [9].

4.1.2. Deep Application of Artificial Intelligence Technology

Foreign universities actively explore the application of artificial intelligence technology in teaching management, developing intelligent tutoring systems and assessment systems to provide personalized learning support and intelligent evaluation for students. For example, the Open University in the UK developed the "Open Learning Analytics" platform, which uses AI technology to recommend personalized learning paths and resources for students [10].

4.1.3. Innovative Application of Virtual Reality and Augmented Reality Technology

Foreign universities use virtual reality and augmented reality technologies to create immersive learning environments, enhancing students' interest and effectiveness in learning. For example, Stanford University developed the "Virtual Human Interaction Lab," which uses VR technology to provide students with immersive learning experiences [11].

4.2. Typical Cases

Foreign universities have accumulated rich experience in intelligent innovation of teaching management and have formed unique models and characteristics in cultural practices. For example, Stanford University's "Stanford Learning Analytics" platform uses learning analytics technology to analyze students' learning data, providing teachers with suggestions for improving teaching and offering personalized learning support to students. For instance, the platform can identify students' learning difficulties and recommend corresponding learning resources and strategies [12].

Similarly, the Open University in the UK's "FutureLearn" platform uses AI technology to provide personalized learning experiences for students. For example, the platform can recommend personalized courses and learning resources based on students' interests and progress [13].

Another example is the Queensland University of Technology's "Innovation Lab" in Australia, which provides a platform for teachers and students to explore and apply new technologies, encouraging them to participate in innovative practices of intelligent teaching management. For instance, the lab has developed a VR-based teaching simulation system, offering students immersive learning experiences [14].

4.3. Challenges and Issues

The cultural practices of intelligent innovation in teaching management in foreign universities also face significant challenges and issues, mainly in the following three aspects:

Data Privacy and Security Issues: Intelligent teaching management involves a large amount of students' personal information, and ensuring data privacy and security is a significant challenge [15].

Ethical Issues in Technology: The application of AI technology has raised a series of ethical issues, such as algorithmic bias and data discrimination, requiring universities to establish corresponding ethical guidelines [16].

Acceptance Among Teachers and Students: Some teachers and students have low acceptance of intelligent teaching management systems, affecting the promotion and application of these systems [17].

5. Comparison and Insights of Cultural Practices in Intelligent Innovation of University Teaching Management Between China and Foreign Countries

Through comparative analysis, it can be found that there are some differences in the cultural practices of intelligent innovation in university teaching management between Chinese and foreign universities. In terms of cultural concepts, foreign universities emphasize innovation and personalization, while Chinese universities focus more on norms and efficiency [18]. In terms of practice models, foreign universities tend to adopt a bottom-up approach, encouraging teachers and students to explore independently, while Chinese universities mostly adopt a top-down approach [19]. In terms of effectiveness evaluation, foreign universities pay more attention to long-term impacts and student development, while Chinese universities focus more on short-term results and quantitative indicators [20].

These differences provide important insights for the intelligent innovation of university teaching management in China. First, it is necessary to strengthen the construction of an innovative culture, creating an environment that encourages exploration and tolerates failure [21]. Second, attention should be paid to the participation of teachers and students, establishing an innovation mechanism that combines bottom-up and top-down approaches [22]. Finally, the evaluation system should be improved, focusing not only on short-term results but also on long-term impacts and student development [23].

6. Conclusion

Under the digital background, research on cultural practices in intelligent innovation of university teaching management is of great significance. Through comparative analysis of the practical status of domestic and foreign universities, we can see that although there are differences in cultural concepts and practice models between Chinese and foreign universities, both are actively exploring paths of intelligent innovation. In the future, Chinese universities should learn from international experiences, combine their own characteristics, strengthen the construction of an innovative culture, improve practice mechanisms, and promote the in-depth development of intelligent innovation in teaching management. At the same time, further theoretical research is needed to explore intelligent innovation models of university teaching management suitable for China's national conditions, contributing to the improvement of the quality of higher education in China.

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