УДК 377:371.12

ПРОБЛЕМЫ И СТРАТЕГИИ ПОДГОТОВКИ ПРЕПОДАВАТЕЛЕЙ ВЫСШИХ ПРОФЕССИОНАЛЬНЫХ УЧЕБНЫХ ЗАВЕДЕНИЙ В УСЛОВИЯХ ЦИФРОВОЙ ТРАНСФОРМАЦИИ ОБРАЗОВАНИЯ: НА ПРИМЕРЕ ОДНОГО КИТАЙСКОГО КОЛЛЕДЖА

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В условиях цифровой трансформации образования данная статья исследует проблемы и стратегии подготовки преподавателей высших профессиональных учебных заведений на примере педагогического колледжа в Китае. Данные были собраны посредством интервью и наблюдений за учебными занятиями.

Ключевые слова: цифровая трансформация образования; преподаватели высших профессиональных учебных заведений; профессиональное развитие педагогов; система поддержки учителей.

CHALLENGES AND STRATEGIES FOR TRAINING FACULTY STAFF FOR HIGHER VOCATIONAL EDUCATIONAL INSTITUTIONS IN THE CONTEXT OF THE DIGITAL TRANSFORMATION OF EDUCATION: THE CASE STUDY OF A CHINESE COLLEGE

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In the context of the digital transformation of education, this study examines the challenges and strategies facing a Chinese higher vocational school in teacher training. Data were collected through interviews and classroom observations.

***Keywords*:** digital transformation of education; higher vocational teachers; teacher development; digital literacy; teacher support system.

1.Overview.

1.1. Concept.

Digital transformation of education is not only the upgrading of technologies but also the systematic restructuring of educational concepts, teaching models, and management systems (Hu Xiaoyan et al., 2022)[1]. At the international level, regions and countries such as the European Union, the United States, and South Korea have included enhancing teachers' digital literacy in their national strategies (Wu Xiaoling et al., 2022)[2]. In China, the Ministry of Education released the educational industry standard Teachers' Digital Literacyin 2022, defining the concept as "teachers' awareness, abilities, and responsibilities in appropriately using digital technologies to acquire, process, utilize, manage, and evaluate digital information and resources; to identify, analyze, and solve educational problems; and to optimize, innovate, and transform teaching and learning activities"(Ministry of Education of the People's Republic of China, 2022， trans. by author) [3].

1.2. Research Methods.

This study employed a case study approach, focusing on a normal higher vocational college in China. The selected institution is characterized by its teacher-training orientation, with students from its Preschool Education College accounting for 30% of the total student population. A total of 26 teachers specializing in preschool education and early education were randomly selected from this college to participate in the study. The profile of these teachers is presented in the following figure.

1.3.Data Collection and Analytical Framework.

This study utilized semi-structured interviews and classroom observations for data collection. The interviews involved 26 participants, including 23 frontline teachers and 3 teaching administrators. Classroom observations were conducted in 10 professional courses, such as Child Behavior Observation and Assessment, Oral Language for Preschool Teachers, and Infant Nutrition and Feeding. The data were analyzed based on five key dimensions: digital awareness, digital skills, digital innovation capability, digital ethical awareness (Yang et al., 2025), and institutional support. These dimensions collectively assessed the current state of teachers' digital competence within the context of educational digital transformation.

2. Challenges in Developing Higher Vocational Teachers.

2.1. Insufficient Teacher Understanding of Digital Teaching.

While many teachers recognize the importance of digital teaching, their understanding of its deeper value remains limited. The investigation revealed that most teachers' comprehension of digital technology remains at an instrumental level. Specifically, 69.2% of teachers adopted digital teaching merely due to institutional requirements. One instructor teaching preschool education courses stated:

«I know I should use online platforms, but I always feel more secure with offline teaching».

Digital technologies are used merely as an auxiliary tool, not as the primary driver of education reform. Field observations also revealed that some teachers lack even basic skills such as screen sharing, which hinders the teaching process.

2.2. Disparity in Teachers' Digital Skill Levels.

Teachers with varying levels of experience demonstrate significant differences in their technological literacy. Young teachers (under 35) quickly master new applications but lack experience integrating technology into the curriculum. Older teachers (over 45) have extensive teaching experience, but show little interest in mastering basic digital skills. For example, in a preschool education course, a young teacher was proficient with an interactive whiteboard but struggled to develop high-quality digital lesson plans. In contrast, a teacher with 20 years of experience struggled with the final online exam system. This disparity complicates the implementation of uniform digital learning standards across educational institutions.

2.3. Challenges in Integrating Digital Technology into Practical Teaching.

Teachers typically face the problem of superficial use of technology. Interviews revealed that most teachers use digital tools only for basic functions, such as slide presentations, online attendance tracking, and homework assignments. Notably, 50% of teachers are unable to use digital platforms to collect feedback and optimize teaching, and 61.5% do not use technology for personalized learning.

One instructor teaching Infant Nutrition and Feeding commented:

"I tried using virtual simulation software, but due to a lack of training, I eventually returned to the traditional lecture-based approach."

This situation not only leads to the underutilization of digital resources but also hinders innovation in teaching methods.

2.4. Digital Ethical Awareness Requires Strengthening.

Teachers' awareness of digital ethics lags significantly behind their practical use of technology. This creates three major risks for teaching practice: first, students' ignorance of privacy protections, leading to the indiscriminate storage of sensitive information on learning platforms; second, a lack of understanding of digital copyright, leading to the unauthorized use of third-party materials; and third, a lack of attention to technological equity, ignoring the impact of the digital divide on students' learning opportunities.

These issues can pose serious ethical and legal risks. For example, some teachers use large quantities of online images without permission to create educational materials, while others arbitrarily restrict the visibility of assignments and grades. This behavior demonstrates a clear lack of understanding of digital ethics on the part of teachers.

As one instructional administrator emphasized:

"We need to establish clear guidelines for the use of digital resources to help teachers avoid potential risks."

2.5. Inadequate Institutional Support Systems.

The curriculum lacks a hierarchical structure and categorization, and it primarily provides general technical guidance rather than subject-specific professional advice. As one teacher who participated in several training courses noted:

"The lectures covered many new technological concepts, but I still did not know how to apply them concretely in the classroom."

Digital educational platforms like chaoxing and Zhihuishu remain underutilized, often serving merely as content repositories rather than as tools for analyzing the learning process. Furthermore, the lack of a dedicated technical support service means teachers are unable to promptly resolve technical issues. This fragmented support structure leads to a lack of systematic institutional support for developing teachers' digital competencies.

3. Strategies for Addressing the Challenges.

3.1. Deepening the Understanding of Digital Teaching.

Regularly organize digital transformation training sessions, inviting educational technology experts and leading educators to share practical examples and demonstrate how digital technologies can effectively enhance learning.

Establish a digital learning demonstration group at the school so that teachers can experience the benefits of digital learning firsthand through open sessions and workshops.

Integrate digital learning methods into everyday teaching and research activities, encouraging teachers to reflect on and share their digital learning experiences.

This multifaceted strategy aims to foster a culture of valuing and actively applying digital learning, moving from superficial adoption to genuine integration.

3.2. Implementing Targeted Tiered Training.

·Provide basic training for new teachers, focusing on the fundamentals of digital tools and platform use.

·Provide in-depth training for existing teachers in core disciplines on digital instructional design and blended learning methods.

·Provide personalized, individualized training and technical support to experienced and seasoned teachers.

Create a digital mentoring system in which experienced teachers will provide support and guidance to teachers with weaker digital skills, fostering a peer-to-peer learning mechanism. Additionally, subject-specific curricula should be developed to help teachers more deeply integrate digital technologies into their professional teaching practices, ensuring that the curriculum accurately reflects the practical needs of teaching.

3.3. Strengthening Practical Application Guidance.

First, establish a dedicated technical support hotline and an online Q&A platform to provide real-time technical support to teachers.

Second, conduct "Digital Teaching Workshops" to focus on hands-on training in developing specific courses. These workshops should help teachers apply technologies such as virtual modeling and data analysis in real-world teaching settings.

Furthermore, create a library of examples of successful digital technology applications across various disciplines, providing teachers with practical templates for reference.

Finally, encourage teaching and research teams to collaborate on lesson planning in the area of digital learning. This approach can facilitate the collective development and implementation of digital learning plans and the deep integration of technology into the curriculum.

3.4. Strengthening Digital Ethics Education.

First, digital ethics training should be included in mandatory teacher professional development courses, focusing on key issues such as protecting student privacy, copyright in digital resources, and technological equity.Second, institutional guidelines for the use of digital resources should be developed to clarify technical and ethical standards for managing student information on learning platforms, as well as copyright requirements for digital materials. Furthermore, a digital learning resource review mechanism should be established to ensure that all learning materials comply with copyright laws and ethical standards.

These measures will ensure that the integration of technology is consistent with legal, social, and educational values.

3.5. Enhancing Institutional Support Systems.

To address the shortcomings of the school's support system, a comprehensive support mechanism must be established. For example, a digital transformation leadership group, led by senior management, must be established to coordinate efforts to improve teachers' digital literacy; an interdepartmental digital learning support group must be established to provide comprehensive support; and investment in equipment must be increased to optimize campus network infrastructure and ensure reliable support for digital classrooms. These measures, taken together, will create a virtuous cycle of continuous improvement and promote the sustainable development of digital learning capabilities at the school.

4. Limitations and Future Research Directions.

This study has several limitations that should be addressed in future research. First, given the limited external validity of the single-case design (26 participants), we recommend using a multi-case mixed-methods approach in the next phase. This would require recruiting at least 200 faculty members from at least 3 higher vocational colleges to expand on the existing findings. Furthermore, we recommend conducting a cross-cultural comparative project

to examine the influence of policy context and cultural values on the development of digital teaching competencies. These efforts are expected to provide evidence transferable to the international professional education community.

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