

Research on strategies to improve the professional teachers' abilities in private universities under the background of digitalization

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ABSTRACT

In the wave of global education digital transformation, the professional teacher capacity development of private colleges and universities in my country is facing a series of new opportunities and challenges. With the widespread application of emerging technologies such as artificial intelligence, big data, and virtual reality, the traditional teaching model is undergoing profound changes, which puts higher requirements on teachers' digital literacy, teaching innovation ability, and interdisciplinary cooperation ability. However, due to the particularity of school positioning, resource allocation, and management system, private colleges and universities face many practical difficulties in improving teachers' digital capabilities. In combination with the economic development and education needs of the Guangdong-Hong Kong-Macao Greater Bay Area, this paper analyzes the current situation, challenges, and strategies of teachers in private colleges and universities in the process of digital transformation, and proposes a practical path for improving the professional teacher capacity of private colleges and universities from the perspectives of improving teachers' digital literacy, innovating digital teaching models, and combining regional economic characteristics. The study found that by optimizing digital infrastructure, building a personalized teacher training system, and promoting diversified school-enterprise cooperation, teachers' professional capabilities can be effectively improved, thereby promoting the high-quality development of higher education.

KEYWORDS

private colleges and universities; digital transformation; teacher capacity improvement; educational innovation; artificial intelligence empowerment

1 Introduction

In the process of global education modernization, digital transformation has become the core driving force for the innovative development of higher education. In particular, driven by the 14th Five-Year Plan and the Education Informational 2.0 Action Plan, the pace of education digitization in my country's colleges and universities has significantly accelerated. However, in this process, private colleges and universities are generally under great pressure in improving teacher capabilities and teaching reforms due to factors such as faculty strength, funding, and information infrastructure.

As the frontier of my country's reform and opening up, the Guangdong-Hong Kong-Macao Greater Bay Area is at the forefront of the country in terms of innovation-driven development, industrial upgrading and digital economy. As an important part of the regional economy, private colleges and universities in Foshan are responsible for cultivating technical and skilled talents for local economic development. Therefore, how to improve the digital literacy, teaching innovation ability and scientific research transformation ability of professional teachers in private colleges and universities based on the regional development needs of the Guangdong-Hong Kong-Macao Greater Bay Area is one of the important topics in current education research and policy formulation.

Combined with the development background of the Guangdong-Hong Kong-Macao Greater Bay Area, this study conducts an in-depth discussion on the paths and strategies for improving the capacity of teachers in private universities from the perspectives of theoretical analysis, current situation investigation and practical exploration, and puts forward practical suggestions that are in line with regional economic characteristics and social development needs, providing decision-making references for the high-quality development of private universities in the context of digitization.

2 Theoretical basis

2.1 Theory of digital transformation of education

The digital transformation of education is an important trend in global education reform. According to a research report by UNESCO, the widespread application of digital technology has not only changed the form of education and teaching, but also profoundly affected the transformation of educational concepts, teaching methods and the role of teachers.

In China, the "Education Informational 2.0 Action Plan" issued by the Ministry of Education in 2018 clearly proposed to promote the transformation of educational information from "integrated application" to "innovative development", which puts forward higher requirements for the digital capabilities of college teachers.

2.2 Artificial Intelligence Empowers Education Theory

The application of artificial intelligence technology is changing the educational ecology. The application of technical means such as intelligent teaching tools, learning analysis systems and educational robots has greatly enriched teaching resources and teaching methods.

International research on artificial intelligence education shows that teachers not only need to master basic digital tool usage skills, but also need to have the ability to drive teaching decisions with data.

2.3 Teacher Professional Development Theory

Teacher professional development is the process of teachers continuously improving their professional knowledge, skills and literacy through continuous learning and practice in their careers. The traditional path of teacher professional development mainly relies on the accumulation of classroom teaching experience and academic research results. In the context of digitization, teachers' professional development needs to incorporate new content such as digital technology application, interdisciplinary cooperation and teaching innovation practice.

3 Current situation analysis

3.1 Digital literacy is generally low

According to survey data, teachers in private universities in Foshan generally have low digital literacy. About 62% of the teachers interviewed believe that they have insufficient mastery of emerging digital tools, especially in the application of data analysis, virtual reality teaching tools and artificial intelligence-assisted teaching tools. This situation is more obvious among older teachers.

3.2 Insufficient innovation in teaching models

Although some private universities have carried out online teaching and hybrid teaching, overall, the innovation of teaching models is still insufficient. Most teachers' classes are still based on traditional lectures, lacking interactivity and personalized learning design. Teachers' collection and analysis of students' learning data during the teaching process is not in-depth enough, resulting in the inability to provide targeted teaching based on students' personalized needs.

3.3 Disconnection between scientific research and practice

The scientific research ability of teachers in private universities in Foshan is relatively weak, and the proportion of scientific research results transformed into teaching practice is low. The research content of many teachers is disconnected from the actual teaching needs and regional economic development needs, resulting in insufficient practicality and social influence of scientific research results. In addition, the participation of teachers in school-enterprise cooperation and industry-education integration needs to be improved.

3.4 Imperfect teacher training system

At present, the teacher training system of private universities mostly remains at the level of basic technical training, lacking personalized training content for different disciplines and individual teachers' actual needs. Most teachers reported that the existing training system failed to effectively improve their teaching innovation ability and interdisciplinary cooperation ability.

4 Problems and Challenges

At present, digital transformation has become an inevitable trend in the development of higher education in my country. The teaching staff of private universities faces many new challenges under this background. From policy orientation, technical requirements to teacher capacity reserve and teaching model innovation, there are many problems and difficulties that cannot be ignored. Especially in private universities in Foshan, the lack of digital literacy and practical ability of teachers has become an important factor restricting the improvement of the overall education quality of schools. This article analyzes in detail the main problems and challenges currently faced by private universities in the process of improving the professional teacher capacity from the aspects of policy environment, teacher development, school management, teaching model innovation and school-enterprise cooperation.

4.1 Insufficient policy implementation and resource guarantee

Although the national and local governments have issued a number of policy documents to promote the digital transformation of education, such as the "Education Informational 2.0 Action Plan" and the "Vocational Education Quality Improvement Action Plan", in the actual implementation process, private colleges and universities often face problems such as insufficient resources, tight funding, and limited policy support. Private colleges and universities are far inferior to public colleges and universities in terms of financial autonomy and policy support, which makes their investment in digital infrastructure construction, teacher training, and teaching reform seriously insufficient.

Current situation: In the process of implementing government policies, private colleges and universities have received less special funding support and resource allocation, and lack precise support policies for private colleges and universities; in the construction of digital education infrastructure, the hardware equipment of some private colleges and universities is backward, and teachers have difficulty in accessing advanced digital teaching tools and platforms.

Challenge analysis: The digital infrastructure is weak and it is difficult to meet the teaching innovation needs of teachers; the actual implementation effect of education policy dividends in private colleges and universities is not obvious, and private colleges and universities face greater competitive pressure when competing for educational resources.

4.2 Teachers' digital capabilities vary

The digital capabilities of teachers in private universities are limited by many factors, including age, subject background, training opportunities, and personal cognitive level, resulting in uneven overall digital literacy among the teaching staff. In particular, middle-aged and elderly teachers are relatively weak in their acceptance and application of digital technology, while young teachers, although they have strong technical capabilities, lack systematic teaching design and teaching innovation capabilities.

Current situation: Older teachers are afraid of difficulties when using digital tools, teaching platforms, and data analysis tools, and lack the awareness of active learning; although some young teachers have certain technical capabilities, they lack innovative awareness and practical experience in actual teaching, and it is difficult to effectively integrate technical means into teaching.

Challenge analysis: The difference in digital capabilities makes it difficult to fully implement the reform of teaching models, and the effect of digital transformation is greatly reduced; the lack of a systematic teacher training plan has slowed down the improvement of some teachers' ability in digital teaching.

4.3 Insufficient motivation for innovation in teaching models

The teaching model of private colleges and universities is often based on traditional lectures. Teachers lack motivation in curriculum design, teaching resource development and teaching form innovation, and it is difficult to adapt to the learning needs of students in the digital age. Especially in private colleges and universities in Foshan, the matching degree between the curriculum system and local economic needs is not high, and the course content is difficult to effectively stimulate students' learning interest and practical ability.

Current situation: Some teachers are still accustomed to using the traditional "one-man show" teaching method, lacking interactive and personalized teaching design; the practicality and cutting-edge nature of the teaching content are insufficient, and it fails to effectively combine regional economic development and students' career development needs.

Challenge analysis: The traditional teaching model is difficult to adapt to the teaching needs of the digital age, and the participation and effect of students' learning are not good; the lag of teaching content makes it difficult for students to quickly adapt to changes in society and the workplace after graduation.

4.4 Insufficient depth of school-enterprise cooperation

Private universities still face many difficulties in promoting school-enterprise cooperation, mainly in terms of insufficient depth of cooperation, single cooperation projects, and low degree of enterprise participation. Especially in Foshan, although the manufacturing industry is developed, the cooperation between universities and local enterprises mostly remains on the surface, and it is difficult to achieve true integration of industry and education.

Current situation: Some school-enterprise cooperation projects remain at the formal level, lacking substantive cooperation content and long-term mechanisms; enterprises are not very enthusiastic about participating in teacher training and teaching reform, making it difficult for teachers to obtain real industrial practice experience.

Challenge analysis: The lack of school-enterprise cooperation makes it difficult for teachers to master cutting-edge industrial technology and practical experience, thereby limiting the timeliness and practicality of teaching content; the

lack of effective cooperation mechanism leads to a lack of industrial support for teachers in the process of curriculum development and teaching innovation.

4.5 Imperfect teaching evaluation and incentive mechanism

The teaching evaluation and incentive mechanism of private colleges and universities are relatively backward, making it difficult to effectively motivate teachers to invest more energy in digital teaching reform. The evaluation system of some colleges and universities still focuses on scientific research results and teaching workload, and ignores the assessment of teachers' teaching innovation ability.

Current situation: The performance evaluation standards for teachers are relatively simple, and there is a lack of special evaluation of digital teaching ability; the incentive mechanism is insufficient, and teachers are not very motivated in teaching innovation and curriculum reform.

Challenge analysis: The unreasonable evaluation system leads to a lack of motivation for teachers to reform, and it is difficult to improve the teaching quality; there is a lack of effective incentives for teaching innovation, which leads to insufficient motivation for teachers in practice.

5 Strategic recommendations

Combined with the current problems in improving the capacity of teachers in private universities, this paper puts forward targeted strategic recommendations from the aspects of digital infrastructure construction, optimization of teacher training system, innovation of teaching model, deepening of school-enterprise cooperation and reform of incentive mechanism, so as to promote the high-quality development of private universities in the context of digitization.

5.1 Increase investment in digital infrastructure construction

Strategic recommendations: Promote cooperation between private universities and the government and enterprises, strive for more special funds for digital education, and improve the level of digital infrastructure construction in schools; introduce advanced intelligent teaching platforms, virtual simulation laboratories and data analysis systems to provide better technical support for teachers; establish a regional shared digital teaching resource platform to achieve co-construction and sharing of educational resources.

Implementation path: Take advantage of the economic advantages of the Guangdong-Hong Kong-Macao Greater Bay Area to strive for financial support from local governments and enterprises; establish a regional education alliance to achieve resource sharing and complementary advantages among private universities.

5.2 Build a hierarchical and personalized teacher training system

Strategic recommendations: Develop hierarchical training plans based on teachers' age, subject background and teaching experience, focusing on improving teachers' digital literacy, data analysis and teaching innovation capabilities; carry out teacher training projects in the "school-based training + enterprise practice" model to improve teachers' practical ability and industry awareness.

Implementation path: Cooperate with local enterprises to establish teacher practice bases, allowing teachers to go deep into enterprises and understand the development trends of the industry; introduce high-quality education and training resources at home and abroad to improve the pertinence and effectiveness of teacher training.

5.3 Promote innovation in teaching models

Strategic recommendations: Encourage teachers to adopt innovative teaching models such as flipped classrooms, project-based teaching, and hybrid teaching to improve students' learning participation and learning outcomes; develop course content that combines regional economic characteristics to improve the practicality and cutting-edge nature of the courses.

Implementation path: Combine the industrial structure and talent needs of Foshan to develop a "local characteristics + digitization" course system; use AI and big data technologies to promote personalized learning and intelligent teaching.

5.4 Deepen school-enterprise cooperation and promote industry-education integration

Strategic recommendations: Promote in-depth cooperation between schools and enterprises, jointly develop courses and teaching materials, and jointly carry out teacher training and student internship projects; establish regional industry-

education integration demonstration bases to achieve in-depth cooperation between universities and enterprises.

5.5 Optimize teaching evaluation and incentive mechanisms

Strategic recommendations: Reform the teacher performance evaluation system, include teachers' digital teaching capabilities and teaching innovation achievements in the evaluation criteria; establish a special reward mechanism to encourage teachers to invest in teaching innovation and curriculum reform.

6 Conclusion and Outlook

In the context of digitization, improving the capabilities of professional teachers in private universities is the key to promoting the high-quality development of higher education. In the future, with the further popularization of digital technology, private universities should pay more attention to the improvement of teachers' digital literacy, the innovation of teaching models and the deepening of school-enterprise cooperation to achieve the deep integration of regional economic and educational development needs.

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