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A Comparative Study of Domestic and Foreign Educational Informatization Policies

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Abstract: In today's era of globalization, the competition among countries is increasingly fierce, and talent is the key to competition. Educational informatization can improve the quality and efficiency of education, cultivate high-quality talents with innovative spirit and practical ability, and thus enhance the core competitiveness of a country. Therefore, countries around the world have regarded educational informatization as an important part of their national strategies, increasing policy support and investment to gain an advantageous position in international competition. This paper aims to conduct a comprehensive comparative analysis of domestic and foreign educational informatization policies, explore their differences and commonalities, and provide references for the optimization of China's educational informatization policies. By reviewing relevant literature, it is found that there are many differences in policy objectives, key measures, and guarantee mechanisms between domestic and foreign policies, and there are also areas for mutual learning. Foreign policies focus on infrastructure construction, teacher professional development, and the promotion of innovative education models, while domestic policies have achieved remarkable results in promoting educational equity, facilitating deep integration, and "Internet + Education" innovation practices, but also face some challenges. Based on this, it is proposed that China should strengthen policy systematization, accurately enhance teacher capabilities, and optimize resource supervision and evaluation to promote the development of educational informatization.

1. Introduction

In the context of globalization and digitalization, the field of education is being profoundly transformed in every aspect by the rapid development of information technology. As an important driving force for educational modernization, educational informatization has become a crucial strategic measure for countries around the world to improve educational quality, promote educational equity, and cultivate innovative talents. With the wide application of emerging technologies such as the Internet, big data, and artificial intelligence in the education field, educational teaching models, learning methods, and educational management methods have undergone profound changes.

Comparing and conducting research on domestic and foreign educational informatization policies simultaneously is of great theoretical and practical significance. By thoroughly analyzing the similarities and differences of policies in various countries, we can draw on international advanced

experiences and provide valuable reference for the formulation and improvement of China's educational informatization policies, thereby better promoting the development of China's educational informatization, enhancing the international competitiveness and influence of China's education, and injecting a powerful educational source for the sustainable development of the country.[1]

2. The Development Process of Domestic and Foreign Educational Informatization Policies

2.1 The Development Process of Foreign Educational Informatization Policies

2.1.1 The Initial Stage (Late 20th Century - Early 21st Century)

Many developed countries began to realize the potential impact of information technology on education and introduced policies to encourage schools to introduce computer and network equipment and offer information technology education courses to cultivate students' basic information literacy. [2] For example, during this period, the United States released a series of educational technology plans, emphasizing the integration of information technology into all aspects of school education.

2.1.2 The Development Stage (2005 - 2015)

With the popularization of the Internet and continuous technological progress, foreign educational informatization policies focused on improving the level of educational informatization infrastructure, promoting the development and sharing of digital learning resources, and strengthening the information technology training of teachers. European countries actively promoted the construction of "digital campuses" to provide a convenient digital learning environment for teachers and students.

2.1.3 The Maturity Stage (2015 - Present)

In recent years, foreign educational informatization policies have placed more emphasis on the exploration and application of innovative education models, using emerging technologies such as artificial intelligence and big data to improve the quality of education and teaching and cultivate students' innovative abilities and comprehensive qualities. For example, "phenomenal teaching" promoted in Finland uses information technology to break down disciplinary boundaries and cultivate students' ability to solve practical problems.

2.2 The Development Process of Domestic Educational Informatization Policies

2.2.1 The Preliminary Exploration Stage (Late 20th Century - 2010)

China began to attach importance to the construction of educational informatization and introduced policies to promote the construction of educational informatization infrastructure and popularize information technology education. During this stage, pilot projects of informatization were mainly carried out in schools in urban and some developed areas to gradually accumulate experience.

2.2.2 The Rapid Development Stage (2010 - 2018)

As the country's attention to educational informatization continued to increase, policy efforts were strengthened. Important documents related to educational informatization policies, such as "The Ten-Year Development Plan for Educational Informatization (2011 - 2020)", were released, clarifying the development goals and tasks of educational informatization and fully promoting the construction of "Three Connections and Two Platforms", namely, broadband network connection in schools, access

to high-quality resources in classes, personal network learning spaces for everyone, and the construction of educational resource public service and educational management public service platforms.

2.2.3 The Deepening Application Stage (2018 - Present)

China's educational informatization has entered the stage of deepening application, emphasizing the deep integration of educational informatization with education and teaching and promoting the development of "Internet + Education". The "Educational Informatization 2.0 Action Plan" was introduced, aiming to innovate education models through technologies such as artificial intelligence and big data, improve educational quality, and promote educational equity.

3. Comparison of Domestic and Foreign Educational Informatization Policies

3.1 Comparison of Policy Objectives

3.1.1 Foreign Policy Objectives

The government should focus on cultivating students' innovative abilities and global competitiveness. Taking the United States as an example, its educational informatization policy emphasizes cultivating students' innovative thinking, critical thinking, and digital skills to meet the needs of global economic competition.

The government should focus on cultivating students' innovative abilities and global competitiveness. Many developed countries are committed to providing equal educational informatization opportunities for regions with relatively scarce technology and disadvantaged groups to ensure that every student can benefit from information technology.

3.1.2 Domestic Policy Objectives

The government should promote educational equity and facilitate the balanced allocation of high - quality educational resources. The education department must improve educational quality and cultivate innovative talents. China's educational informatization policy takes narrowing the educational gap between urban and rural areas, regions, and schools as an important objective and enables more students to enjoy high-quality educational resources through informatization means. [3]

The government should emphasize using information technology to innovate educational teaching models and cultivate high - quality talents with innovative spirit and practical ability to provide talent support for the country's economic and social development.

3.2 Comparison of Key Measures

3.2.1 Foreign Key Measures

Educational institutions should strengthen infrastructure construction and renewal. They continuously invest funds to upgrade school network equipment, computer hardware, etc., to ensure that students and teachers can enjoy a high - speed, stable network environment and advanced information technology equipment. For example, in Singapore's "Smart Nation" strategy, the digital infrastructure of schools has been comprehensively upgraded.

We need to attach importance to teacher information technology ability training. Schools should establish a complete teacher training system, provide diverse training courses and training methods, and encourage teachers to apply information technology in teaching practice. For example, Australia

has formulated teacher information technology professional development standards, requiring teachers to participate in training regularly and obtain corresponding certifications. [4]

The government should promote the development and sharing of digital teaching resources. It should encourage enterprises, universities, and research institutions to participate in the development of digital teaching resources, establish resource sharing platforms, and promote the circulation and sharing of high - quality teaching resources nationwide and even globally. Some European countries have achieved transnational sharing of teaching resources through jointly developing online course platforms.

Schools need to explore innovative education models. They should actively attempt to use emerging technologies to carry out innovative education models such as personalized learning, project - based learning, and blended learning to stimulate students' learning interests and initiatives. For example, some schools in Sweden use virtual reality technology for teaching history, geography, and other subjects, allowing students to experience the learning content immersive.

3.2.2 Domestic Key Measures

Educational institutions need to promote the construction of "Three Connections and Two Platforms". Through broadband network connection in schools, they should achieve full network coverage in each school; ensure that high - quality resources are accessible in each class, allowing high - quality teaching resources to enter the classroom; and provide personal network learning spaces for teachers and students, namely, network learning spaces for everyone. They should build educational resource public service platforms and educational management public service platforms to improve the sharing speed of educational resources and the informatization level of educational management.

Educational departments need to implement educational informatization special projects. Such as the "Modern Distance Education Project for Rural Primary and Secondary Schools" and the "Digital Education Resources Full Coverage Project for Teaching Points", with the focus on improving the informatization conditions of schools in remote areas and enhancing the educational level.

Educational authorities need to encourage "Internet + Education" innovation practices. They should support schools and enterprises to carry out online education, smart education, and other innovation practices and explore new education teaching models based on the Internet. For example, some universities in China have launched MOOC courses, attracting a large number of students to participate in learning and achieving the sharing of high-quality course resources.

Educational institutions need to strengthen the construction of educational informatization standards. A series of educational informatization standards have been formulated, including infrastructure construction standards, digital resource construction standards, and teaching application standards, to improve the construction and application level of educational informatization and promote the development of educational informatization.

3.3 Comparison of Guarantee Mechanisms

3.3.1 Foreign Guarantee Mechanisms

Funding investment mechanism. The government provides sufficient financial support for educational informatization through fiscal budgets, special appropriations, etc. At the same time, it encourages enterprises and social institutions to invest in educational informatization projects, forming a diversified funding investment pattern. For example, the US government invests a large amount of funds in educational technology research and development and school informatization construction every year, and some technology enterprises also actively participate, providing

technical support and donating equipment to schools.

Policy and regulation guarantee. Legislative bodies should formulate complete educational informatization policies and regulations, clarify the responsibilities and obligations of all parties, and ensure the smooth implementation of educational informatization policies. For example, South Korea has promulgated the "Educational Informatization Promotion Law", which makes detailed provisions on the planning, implementation, and supervision of educational informatization.

Evaluation and supervision mechanism. Educational researchers need to establish a scientific educational informatization evaluation index system, regularly evaluate and monitor the development level of educational informatization in schools and regions, and timely discover problems and adjust policy measures. Some European countries conduct international comparison studies to understand the position and gap of their own country's educational informatization in the world and provide a basis for policy improvement.

3.3.2 Domestic Guarantee Mechanisms

Government leadership and overall coordination. China's educational informatization policy is formulated and implemented under the leadership of the government. Special educational informatization leading institutions have been established at all levels of government to be responsible for overall coordinating educational informatization work and ensuring the effective implementation of policies.

Funding investment and project support. The government has increased its investment in educational informatization and carried out a series of educational informatization activities. For example, in the "Comprehensive Improvement of Basic Schooling Conditions for Compulsory Education in Poor Areas" project, the purchase of informatization equipment is an important part. At the same time, through fiscal subsidies, rewards, etc., schools and enterprises are encouraged to carry out educational informatization innovation practices.

Teacher team construction guarantee. Schools need to strengthen teacher information technology training, establish a teacher information technology application ability training system, and improve teachers' information technology literacy through various channels such as national training programs and provincial training programs. At the same time, certain requirements are put forward for teachers' information technology application ability in aspects such as teacher title evaluation and performance assessment to encourage teachers to actively participate in educational informatization practice.

3.4 Discussion

Through the comparison of domestic and foreign educational informatization policies, it can be seen that each country has its unique advantages and challenges in the development process of educational informatization. The experiences of foreign countries in infrastructure construction, teacher professional development, and innovative education models are worthy of our learning. For example, their diversified funding investment mechanisms and complete teacher training systems can provide strong guarantees for the sustainable development of educational informatization. At the same time, the active exploration of innovative education models abroad, such as using emerging technologies for personalized learning, also provides new ideas for cultivating students' innovative abilities and comprehensive qualities.

However, significant achievements have also been made in the implementation of domestic educational informatization policies, especially in promoting educational equity. Through the promotion of the construction of "Three Connections and Two Platforms" and the implementation of special projects, the informatization conditions of rural and remote area schools have been effectively improved, enabling students to share high-quality educational resources. In addition, certain

achievements have also been made in the "Internet + Education" innovation practice in China, providing practical experience for the transformation of educational teaching models.

However, we should also recognize that there are still some problems in the development of domestic educational informatization, such as the need for further strengthening the improvement of teachers' information technology application ability and the need to improve the quality and applicability of digital educational resources. In the future development, we need to combine the experiences and lessons of domestic and foreign countries and continuously improve educational informatization policies to better adapt to the needs of the times.

4. Enlightenment and Suggestions from the Comparison of Domestic and Foreign Educational Informatization Policies

4.1 Strengthen Policy Systematization and Continuity

China should further strengthen the top-level design of educational informatization policies, pay attention to the systematization and continuity of policies. Formulate long-term educational informatization development plans, clarify the development goals and key tasks of different stages, and ensure the stability and continuity of policies. At the same time, strengthen the coordination and cooperation among various departments to form a policy synergy and jointly promote the development of educational informatization.

4.2 Increase Support for the Precision Training of Teachers' Information Technology Abilities

Drawing on foreign experiences, China should further improve the teacher information technology ability training system and carry out precision training. According to the different ages, subject backgrounds, and information technology application levels of teachers, formulate personalized training programs, provide diverse training courses and training methods. Strengthen the practical aspect of training, enable teachers to apply information technology in actual teaching, and improve the training effect. At the same time, establish a mechanism for the continuous improvement of teachers' information technology abilities and encourage teachers to continuously learn and update their knowledge and skills.

4.3 Optimize the Quality Supervision and Evaluation System of Digital Educational Resources

Strengthen the quality supervision of digital educational resources, establish a strict resource review mechanism, ensure the accuracy, scientificity, and applicability of resources. Improve the evaluation system of digital educational resources, evaluate resources from multiple dimensions such as resource content, teaching effect, and user satisfaction, timely eliminate resources of poor quality, and recommend high-quality resources. Encourage schools and teachers to participate in the evaluation and feedback of resources to promote the continuous optimization and updating of resources.

4.4 Promote the Deep Integration and Innovation of Educational Informatization and Education Teaching

In the process of promoting educational informatization, China should pay more attention to the deep integration and innovation of educational informatization and education teaching. Encourage schools and teachers to actively explore using information technology to innovate teaching models and learning methods, carry out personalized teaching, project-based learning, collaborative learning,

and other practical activities. Strengthen the data mining and analysis in the educational teaching process, use big data technology to support teaching decisions, and achieve precision teaching and personalized learning.

5. Conclusion

Through the comparative study of domestic and foreign educational informatization policies, we can see that there are certain differences in policy objectives, key measures, and guarantee mechanisms among different countries, but there are also many common development trends and experiences worthy of learning. China has achieved remarkable achievements in the development of educational informatization, but also faces some challenges. In the future, by combining the actual situation of the country and fully absorbing excellent foreign experiences, we should improve educational informatization policies, strengthen the implementation of policies, promote the deep integration and innovation of educational informatization and education teaching, and provide strong support for realizing educational modernization and cultivating high-quality innovative talents.

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