

An Introduction to Education Informatization for Educational Equity: An Example of Online Education Platform

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Abstract: Education informatization is based on modern information technology, and the main feature is the wide application of information technology in education, which organically combines modern information technology with subject teaching, so that various teaching resources can be shared and students can interact, interact and develop together. With the deep integration of information technology and education practice, the in-depth use of information technology makes China's education more fair and just, and education informatization is an important way to improve education equity, improve teaching quality and promote education modernization. This paper conducts this study on educational informatization for educational equity by introducing educational informatization, educational equity and online education platforms, describing the concept and challenges of educational equity, describing the theoretical framework and empirical research on online education platforms for educational equity, discussing the opportunities and challenges of online education platforms for educational equity, and providing some strategies and suggestions for promoting online education platforms for educational equity.

Keywords: Education Informatization; Education Equity; Online Education Platform.

1. Introduction

Education informatization refers to the application of information technology in education, using computers, the Internet and other advanced communication technologies to provide solutions in teaching, management and learning support. Online education platform is an important part of education informatization, which refers to a platform that provides online learning resources and educational services through Internet technology.[1]

With the advancement of computer and Internet technology, the education field is also gradually realizing that the use of information technology can greatly change the way and mode of traditional education. The development of education informatization and online education platforms provides students with more spiritual life and personalized learning opportunities, breaks through time and space restrictions, breaks the geographical barriers of traditional education resources, and makes education resources more widely shared and utilized.

The term education is understood in a broad sense as education and training, i.e., a social practice that purposefully and consciously influences people physically and mentally and promotes their development in the direction required by society, and is the work of raising children who are born as natural persons to become members of society. Education includes family education, social education and school education. This trinity of education process is affected by birth background, living environment, economic conditions and other subjective and objective factors, and there are more or less unfair and uneven phenomena. This work of education informatization from the beginning to perfection until the rapid development of the process, has an important and far-reaching significance to promote educational equity and balanced development of education.[2]

2. Overview of Education Informatization and Online Education Platform

Education informatization is the process of applying information technology in the field of education, rather in improving the educational process and educational management,[3] enhancing the educational effect and learning experience, which covers the digitalization of educational resources, innovation of educational methods and the intelligence of the learning environment. The development of education informatization has gone through several key stages: the first, early stage of education informatization mainly focused on computer-assisted medium education and education software development to provide computer-based learning tools and educational resources; with the popularity of the Internet, the second stage saw the emergence of online learning and distance education, where educational resources were shared and disseminated online; and the third stage was represented by online education platforms, which provide a more effective learning experience by integrating The third stage is represented by online education platforms, which provide more comprehensive learning support and personalized learning experience by integrating various teaching resources and services. Meanwhile, education informatization is developing toward deep integration and intelligence, combining human intelligence, big data and virtual reality technologies to provide students with more intelligent, personalized and inter-temporal learning methods and promote comprehensive development and innovation in education. The scope of education informatization is increasingly expanding; it does not only involve school education, but also includes lifelong education education, vocational training and community education, providing more learning opportunities and

educational resources for the majority of students and learners, and promoting the universalization and equity of education.

As an important part of education informatization, online education platform plays an important role in the field of education. [4]It uses the Internet and other advanced communication technologies to provide the following features, functions and technical support:

2.1. Learning about Spiritual Life

Online education platform provides students with a spiritual life of learning. Students can choose their learning content and schedule their learning independently according to their time and place. This spiritual life allows learning to be adapted to individual schedules and needs, improving learning efficiency and convenience.

2.2. Personalized Learning

Online education platforms provide opportunities for personalized learning. By analyzing students' learning data and learning behaviors, the platform can recommend appropriate learning resources and learning paths based on students' learning styles, interests and abilities.[5]

2.3. Diverse Learning Resources

The online education platform brings together a rich variety of learning resources. Students can choose appropriate learning resources according to their needs, enriching learning content and broadening knowledge areas.

2.4. Interaction and Cooperation

The online education platform provides opportunities for interaction and cooperation between students and teachers, and between students and students. Students can communicate and cooperate with teachers and other students through online discussions, instant messaging, and collaborative editing, etc. This interaction and cooperation helps students share knowledge, solve problems, and learn together, promoting student participation and learning effectiveness.

2.5. Learning Evaluation and Feedback

Online education platforms can provide learning evaluation and feedback mechanisms. Students can evaluate their learning outcomes through online tests, homework submission and independent evaluation; meanwhile, teachers can also use online teaching tools and learning data analysis to simultaneously understand students' learning progress and provide personalized feedback and guidance.

3. Concepts and Challenges of Educational Equity

In the era of education informatization 2.0, the role of informatization in promoting education reform and development has been greatly enhanced, and information technology has transformed from an exogenous variable affecting education reform and development to an endogenous variable triggering deep-seated systematic changes in education; education informatization has become an effective means to promote education equity and improve education quality.[6]Educational equity, a norm or principle of rationality on which the state allocates educational resources, emphasizes that individuals should not be treated unequally in terms of educational opportunities because of

their background, economic status, geographic location, or other social factors, and that it believes that everyone has an equal right to acquire knowledge and develop their potential, and that educational equity is an important means of achieving social justice and equality.

However, educational inequality and the digital divide are challenges to educational equity. Educational inequality refers to the phenomenon of uneven distribution of educational resources and opportunities among different groups in society. Such inequality may be caused by factors such as economic disparities, geographical conditions, and socio-cultural differences, resulting in a portion of the population being denied access to quality educational resources, which in turn affects their development and social mobility.

The digital divide refers to the difference in the penetration of digital technologies and the Internet between different groups. Due to the lack of appropriate technical equipment, Internet access and digital skills, some people may not be able to take full advantage of the learning opportunities and resources provided by online education platforms, and the existence of the digital divide further exacerbates the problem of educational inequality and makes it difficult for some disadvantaged groups to gain access to educational equity.[7]

Online education platforms have the potential to address educational equity, but there are some limitations: first, online education platforms require stable Internet connections and appropriate technical equipment, which may be difficult in some poor regions or developing countries; second, the content and resources of online education platforms need to be adapted to the needs and backgrounds of different groups and provide diverse and inclusive learning content; furthermore, educational equity also requires a comprehensive consideration of teacher training and support to ensure the quality and effectiveness of the educational process.

In summary, online education platforms can help expand the scope and opportunities for educational equity, but a combination of technological, resource and social factors is needed to ensure that the goal of educational equity is truly achieved.

4. Theoretical Framework and Empirical Study on Online Education Platforms for Educational Equity

4.1. Theoretical Framework

4.1.1. Universal and Equalized Learning Opportunities

By providing learning opportunities without temporal or spatial restrictions, online education platforms eliminate the restrictions on educational opportunities imposed by geographic, economic and time factors. Students can access high-quality educational resources and learning opportunities regardless of their location, as long as they have Internet access. This helps address the inequalities caused by geography and economics in traditional education, and enables more people to have equal access to quality education.

4.1.2. Sharing and Openness of Learning Resources

Online education platforms promote educational equity through shared and open learning resources. Teachers and students can share and access diverse educational resources, whether teaching materials, course content or learning tools,

through online education platforms, breaking the limitations of the lack of resources and access dilemmas in traditional education.

4.1.3. Support for Personalized Learning

The personalized learning features of online education platforms help provide personalized learning support and promote educational equity. Using learning analytics and learner data, platforms are able to provide personalized learning resources, learning paths and learning feedback based on students' learning needs and interests. This ability to support personalized learning is sufficient to meet students' multiple learning needs, ensuring that each student can fully learn at their own pace and in their own way.

4.1.4. Social Collaboration and Interaction

Online education platforms provide opportunities for social collaboration and interaction, facilitating collaborative learning among students. Through capabilities such as online discussions, collaborative projects, and virtual classes, students can interact and collaborate with peers from different geographies and backgrounds, broadening horizons, enhancing opportunities for interactive learning, and promoting educational equity.

The theoretical framework of online education platforms emphasizes the use of technology to promote educational equity, break down geographic and economic constraints, provide shared and personalized learning opportunities, and enhance social collaboration and interaction among students. However, implementation needs to overcome factors such as the digital divide, inequality in technological capabilities, and quality regulation.

4.2. Empirical Study

4.2.1. Balanced Base Resource Allocation

The most prominent manifestation of China's education equity problem is the education gap, which is mainly reflected in infrastructure, digital education resources, and improvement of teacher qualifications. The construction of education informatization infrastructure can not only make up for the lack of other infrastructures to a certain extent, but also is a prerequisite and foundation for the construction of digital education resources, which plays an important role in the process of promoting educational equity. Some scholars have proposed the path of "giving full play to the advantages of informatization infrastructure and resource construction" to promote educational equilibrium from the practice of construction of special educational resources in Yangzhou City.[8]

Shuzhi Wu summarizes the experience of promoting education balance by "promoting campus digitalization" from the practice of education informatization in Xuhui District, Shanghai.[9]

Some scholars proposed measures to promote the integration of urban and rural education, such as "prioritizing the development of rural infrastructure, comprehensively promoting the construction of information resources with rural characteristics, further strengthening the training of rural teachers and students in information literacy, and promoting the sharing of urban high-quality educational resources" in response to the current situation of education in rural areas.[10]

Some scholars have proposed measures to promote precise poverty alleviation in education in ethnic areas by investigating the current situation of teaching points, such as "making full use of digital education resources at teaching

points, improving the information leadership of school leaders and teachers' IT application ability, and realizing inter-school resource sharing and twinning support.[11]

Unlike the concept of promoting educational equity through resource input such as infrastructure and digital education resource construction, improving teachers' professional capacity is an important measure to stimulate the endogenous motivation of weak areas and schools, which is more sustainable. Chen Enlun and Chen Liang have conducted an in-depth study on the precise poverty alleviation model in poor areas, and through literature analysis and fieldwork, they concluded that the level of teachers is the core bottleneck that restricts the development of education in poor areas; thus, they proposed that precise poverty alleviation in education should focus on the construction of teachers' level, with the goal of promoting endogenous development.[12]

Teachers are the foundation and core of educational resources, and the adoption of information technology measures to enhance teachers' professional capacity is an important means to allocate resources to weak areas and weak schools.

These empirical studies support the theoretical framework of the role of online education platforms in promoting educational equity. However, more research is still needed to delve into the full implementation and effective strategies of online education platforms to ensure the reality of education platforms and to address potential problems that may arise, such as the digital divide and technological capability differences.

5. Opportunities and Challenges of Online Education Platforms for Educational Equity

5.1. Opportunities:

5.1.1. Expanding Learning Opportunities

Online education platforms can expand learning opportunities by providing flexible learning options and resource sharing, allowing more people to access high-quality education. Students can choose the right courses and learning resources according to their needs and interests, regardless of their location.

5.1.2. Improve Learning Effectiveness

Online education platforms provide opportunities for personalized learning, and through learning analytics and intelligent technology, they can provide customized learning content and support based on students' learning progress and needs, thereby improving learning effectiveness.

5.1.3. Promote the Sharing of Educational Resources

Online education platforms encourage the open sharing of educational resources so that teachers and students can share quality teaching resources and experiences with each other. This sharing of resources helps compensate for the uneven distribution of educational resources and enables more students to access rich and diverse learning resources.

5.2. Challenges:

5.2.1. Digital Divide

The spread of online education platforms faces the challenge of the digital divide. In some regions and households, the lack of stable Internet access and appropriate technological devices results in unequal access to online learning opportunities for students. This digital divide may

exacerbate the problem of educational inequality.

5.2.2. Technology Access and Capacity

Using online education platforms requires a certain level of technology access and technical capacity. Students and teachers who lack technical knowledge and skills may face difficulties in using the platform.

5.2.3. Student Engagement and Self-discipline

Online learning requires students to have a certain level of self-discipline and initiative to be able to manage their own learning progress and time. Some students may face challenges of lack of motivation, distraction, and lack of a learning plan.

In summary, while online education platforms present opportunities to promote educational equity, they also face challenges such as the digital divide, technology access, and student engagement. In order to fully utilize the potential of online education platforms, measures are needed to address these challenges, ensure equal distribution of educational resources, provide appropriate technical support, and focus on student engagement so that the positive impact of online education platforms on educational equity can truly be realized.

6. Strategies and Suggestions for Promoting Online Education Platforms for Educational Equity

6.1. Policy Formulation and Support

The government should formulate relevant policies and regulations to support the development and popularization of online education and ensure that online education platforms can provide equitable learning opportunities.

6.2. Improvement of Technical Functions and User Experience

Online education platforms need to continuously improve technical functions and user experience to meet the needs of students and teachers. Platforms should provide features such as stable Internet connections, interfaces that adapt to different devices and network environments, and personalized learning and assessment tools to provide a high-quality learning experience.

6.3. Teacher Training and Professional Development

Teachers play a key role in the online education environment and need to adapt to new teaching models and technological tools. Provide relevant training and professional development opportunities for teachers to enhance their online teaching skills and use of educational technology.[13]

6.4. Solutions to the Digital Divide

To address the digital divide, a variety of measures need to be taken. Governments and educational institutions can promote infrastructure development and provide subsidies for Internet access facilities and equipment; provide technical training and support to help students and parents become familiar with online learning tools and platforms; and carry out community cooperation projects to provide free or low-cost Internet access services, etc.

6.5. Assessment and Supervision Mechanism

Establish an assessment and supervision mechanism for online education platforms to ensure the quality and accuracy of platform content. It can include teaching quality assessment, learning outcome certification, user feedback and complaint handling mechanisms, etc., to maintain educational equity and learning quality.

Through the implementation of the above strategies and recommendations, online education platforms can be promoted to play a greater role in promoting educational equity, providing equal learning opportunities, improving learning outcomes, and reducing inequalities brought about by the digital divide. At the same time, governments, educational institutions and platform providers need to work together to form a cooperative mechanism to provide support and guarantee the sustainable development of online education.

7. Conclusion

Education informatization is of great significance in promoting educational equity. As an important component of education informatization, online education platforms have the potential to expand learning opportunities and provide diverse learning resources and personalized learning support. However, challenges such as digital divide, technology access, and student engagement need to be addressed. Therefore, further research and practice are needed to develop relevant policies, enhance technological features and user experience, strengthen teacher training and student engagement, and establish evaluation and regulatory mechanisms to ensure that online education platforms can fully realize their potential in promoting educational equity.

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