

# The Role of Informationization in Promoting Equity in Chinese Higher Education

Ying Li , Irene Nabunat-Paciente

QuJing Normal University,Qujing, Yunnan 655000

**Abstract:** Educational equity is not only a problem in the field of education, but also a problem about whole society. The popularization and optimization of the Internet and the continuous emergence of a variety of new information technologies provide more efficient and convenient tools and platforms for the development of education and teaching. By comparing with other developed countries and analyzing the structure of China’s current education system and through the analysis of China’s informatization process in colleges and universities, this paper attempts to explore the problems about equity issue existing in education and seek the most effective way to improve it by using information means and combining with classroom teaching.

**Keywords:** Educational equity; Educational fairness; Informatization

The process from the industrial age to the information age is not a simple step forward of The Times, but a huge change in the social structure. In this process, only by breaking the traditional mode of thinking, overcoming the dependence on the traditional path, and innovating the theory and method that could better adapt to The Times. In view of this, in the aspect of education equity, all educators should innovate the idea and form a new consensus. Compared with traditional material resources, as a public product, information resources (IR) have the characteristics of nearly zero cost reproduction, wide benefit and high performance in communication. Therefore, the educators need to change the traditional view of public products and information resources in this era, IR should not be monopolized by enterprises or some institutions. Making huge profits by taking advantage of the zero-cost duplication of IR, which hinders social equity and social progress. Clayton Christensen, who put forward the concept of “disruptive innovation”, pointed out that the education is being surrounded by disruptive technological forces, which will completely change the way of learning and have a huge impact on the existing education system. Therefore, establishing the concepts of destructive innovation, subversive creation and integrated innovation is helpful for seeking the revolutionary breakthrough point of educational equity. The experts and scholars have the responsibility to advocate the government to provide construction funds through financial allocation and guide organizations to build information resources. In this way, the most excellent and appropriate people can be mobilized and selected to build the resources for whole nation and ensure the quality of construction to promote educational equity. In fact, with the popularization of

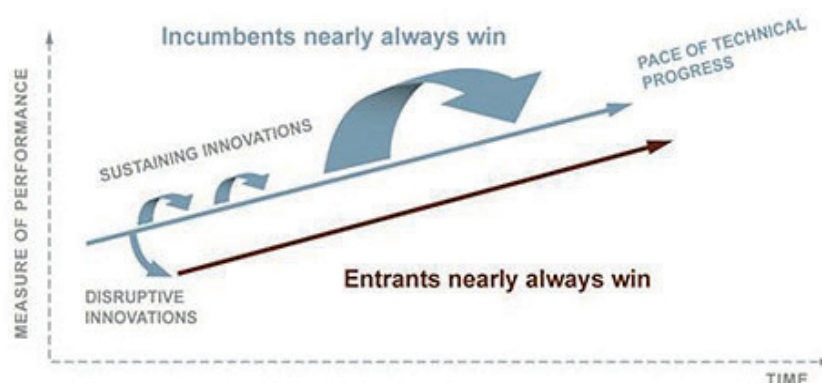


Figure1: disruptive innovation

mobile devices and the coverage of wireless network, to some extent the requirements for supporting ubiquitous learning have been met. The “revolutionary impact of information technology on education” is already happening in everyone’s life. When facing the future, the core is how to make the best use of informatization. Based on the above understanding, there are a variety of innovation paths in the use of information technology to improve educational equity. This paper mainly discusses from three aspects.

## **1. Use the network to share the course resources of famous teachers in a wider range**

“Human resource is the first resource”. Excellent teachers are always the most valuable teaching resource no matter in which country. The highest requirement for achieving educational equity is for learners to be able to receive the guidance of well-known teachers, while the famous teachers are scarce resources, which cannot be achieved by traditional means, but today it can be shared nationwide and worldwide by using the network, which could solve the problem of unbalanced allocation of education resources. This has become an innovative initiative in many schools in China. For example, Shanghai Open University invites famous teachers to teach, so that learners of Open University can enjoy the resources of famous teachers; Massive Open Online Courses (MOOC), which have become more and more popular, giving people access to prestigious universities around the world; “Classroom of famous universities” and “Classroom of famous teachers” among the high-quality micro-course resources of Chinese colleges and universities are the practice of sharing resources in the field of education; The Sharing Resource of National Excellent Course and National Excellent Video Open Course under construction in China also make it convenient for a large number of learners to obtain the teaching resources of famous teachers<sup>[1]</sup>.

Sharing educational resources through the network has become an irresistible trend, however, it still stay at a relatively low level. The author expect to learn from MOOC at the national level, integrate credit banks and the construction of “Networked Learning Space for Everyone”, to build an advanced form of sharing excellent resources of education and make full use of this it to support the learning revolution. The combination of the characteristics of the development of The Times and the advantages of a country with a population of 1.4 billion determines that China can do better in this regard. The teaching mode of “video-communication-research-innovation” designed for this study is in essence not only to utilize the resources of famous teachers in a larger scope, but also to closely connect them with the cultivation of people’s advanced thinking ability and creativity ability, so as to give full play to the role of informatization. This kind of education mode mainly uses the teaching videos of famous teachers to spread the subject knowledge on a large scale and conducts basic learning by watching the videos. Learners can take the initiative to learn and analyze with the help of digital resources, deepen their understanding of video content and expand the scope of learning content. Teachers cooperate with the organization of brainstorming seminar, enlightening thinking and inspiration, deepen the understanding of knowledge, produce new ideas, on this basis, innovation and creation can be done. There are five main points to this model, which are: excellent educational videos; audio-visual learning; deepening and expanding; brainstorm and innovation and creativity.

Similarly, in period of the novel corona-virus epidemic, Qujing Normal University has launched a “dual-teacher teaching” model, which combines “online distance teaching” with “local after-school tutoring”. Specifically, students allowed watching the live course through mobile device, and at the same time, teachers from local schools will organize teaching activities such as discussion and answer questions about the course content. In this way, on the one hand, the quality of classroom teaching can be improved by using the resources of high-quality famous teachers and universities. On the other hand, the lack of interaction in video teaching and the difficulty in realizing personalized teaching can be avoided. This teaching model also plays a great role in promoting the improvement of teachers’ professional level in less developed areas, effectively promoting the balanced development of education. How to introduce massive high-quality resources into the teaching process and make effective use of them requires the innovative design of teaching mode and the application of high-quality resources should run through the teaching process to improve the quality of teaching and make up for the inequity in the educational process caused by the gap between teachers.

## **2. Build an intelligent discipline portal to disseminate and share high-quality academic resources on a large scale**

There is a huge amount of information resources on the Internet, but the reality is that “people are drowning in the ocean of information resources, but they are suffering from thirst for knowledge”. The lack of professional resources, especially discipline resources, has a crucial impact on the construction of an innovative country and the cultivation of innovative talents. Disciplinary information resources, as the highest level of information resources, represent the development level of the country. They are directly related to scientific research, talent training, social development, cultural inheritance and innovation, and play an irreplaceable role.

Therefore, it is the need of Chinese higher education to establish a disciplinary information resource service system with optimized structure, advanced platform and perfect mechanism. It can not only lead the construction of China’s information resources to a higher

level, but more importantly, it is beneficial for professionals and disciplinary people to grow together under the fair environment of professional and disciplinary information resources. The most direct and effective form of subject information resources is the construction of disciplinary portal, which can promote talents' high-level development and innovative development, focusing on the realization of high-level education equity. Smart disciplinary portal, should gather all the resources of the first and second class of disciplines and have the following functions:

Become the intellectual incubator of the discipline;

Provide a platform for disciplinary innovation;

Become the carrier of discipline activation and development and in-depth aggregation of discipline resources;

Provide mobile online publication;

### **3. Vigorously develop intelligent courses**

There are still several deep-seated problems of equity in the higher education. Such as educational content that is outdated and partially out of touch with social needs, test-oriented education is still in vogue, educational evaluation still focuses on memorization and termination, neglecting the cultivation of students' innovation ability, problem-solving ability and higher-order thinking ability. Thus, how to use information means to solve this problem, in the level of training innovative talents to achieve the era of high level education equity?

At present, education informatization has played a role in promoting educational equity, mostly reflected in the use of information technology to optimize and balance the allocation of educational resources. However, that this effect is not a subversive innovation. It is difficult to solve the deep problems existing in the current education, the educational equity realized can only be at a low level. All educators need to break away from the familiar framework, through the revolutionary impact of information in the field of education, to guide innovation, develop smart education, stimulate students' wisdom and creativity, promote the wisdom cultivation and sustainable development of education stakeholders (students, teachers, parents, managers, the public, etc.)<sup>[2]</sup>, fundamentally solve the deep practical problems of education, and construct education equity at a higher level.

Innovation and development of smart education, stimulate the wisdom of students, the core is to build the intelligent curriculum (IC) as the starting point. The IC is a new type of curriculum with the function of the integration of wisdom, which is constructed according to the requirements of The Times. It has the characteristics of plurality, generation, development, sociality, connectivity, creativity and intelligence. It is guided by "Connectionism - Thorndike's Learning Theory", which is helpful to cultivate students' advanced thinking and creative ability. Based on the basic learning model of "video-communication-research-innovation", multivariate evaluations will be carried out which includes video learning and intensive training in a timely manner, the progressive type practice (recruit game form) conditions, the periodic test situation, comprehensive project training situation, the innovation of excellent works create situation, learning progress, outstanding contributions, collaboration, cooperative learning situation, the final exam, and so on. The IC can establish personal learning space for each one, comprehensive records all information, including academic data and study trajectory. It also could set up a learning analysis model, analyze students' knowledge and ability development level with big data technology, promote the change of learning methods with the reform of evaluation system, and make learning more interesting, challenging and progressive. It is a subversion of traditional curriculum, traditional teaching mode, traditional learning mode and traditional evaluation system.

The common feature of the above measures to improve educational equity through informatization is to break through the "regional model" of local schools operating independently in the past to achieve the promotion, development, sharing and integration of the whole country. The continuous improvement of information and communication technologies, as well as the burgeoning cloud technology and big data, have created opportunities for the Chinese education to reach the advanced level of the world.

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### **About the author:**

Ying Li , gender: female, nationality: Han Nationality, Date of birth: August 1985, native place: Qujing, Yunnan, Professional title: Lecturer, Education: Master degree, research direction: Education