

China's Information Education Policy Analyzing and Philosophical Reflection on E-Education

Dezhong Wang*

Department of Philosophy, National Technical University "Kharkiv Polytechnic Institute", Kharkiv 61002, Ukraine

*Corresponding author: Dezhong Wang, wscwdz@126.com

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Abstract: E-education based on information communication technology (ICT) has become an educational revolution. After the application of information technology in education, it has changed the traditional teaching and learning methods. Learning in the virtual space constructed by technology has been widely accepted by people, and has brought new characteristics to education. Further, the influence of a country's education policy on education is also very important. This paper analyzed the important role of information education policy on promoting the development of E-education in different periods. However, when people rely too much on E-education, and try to put technology above education, they fall into "instrumental rationality", and there is "technology worship" in the field of education. This caused an unprecedented crisis in the E-education field, and at the same time unable to achieve the purpose of the education system. Additionally, in the process of the excessive pursuit of the efficiency of knowledge dissemination, "man" education is disappearing.

Keywords: E-education; Educational reflection; Technology; Instrumental rationality; Information society

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1. Introduction

Since the first E-mail sent by Beijing Institute of Computer Application Technology in 1987, the construction of China's information society has gone through more than 30 years of history. Information technology has reconstructed all aspects of social life in the Chinese people. At present, the Chinese people are used to serve online for shopping, entertainment, education, medical treatment, payment, and others. By the end of 2020, there were around 989 million netizens in China, and the Internet penetration rate reached 70.4%, with AI technology is widely used in industrial production, intelligent medicine, and others [1].

The theory already predicted the coming of the information society. The Post-Industrial Society pointed out that if the industrial society is based on machine technique, then the post-industrial society is based on knowledge, and if the capital and labor are the main structural characteristics of an industrial society, then the information and knowledge are the main structural characteristics of the post-industrial society [2]. Meanwhile the Super-Industrial Society believed that the land, labor, raw materials, and capital are the main production factors of the second wave economy, while knowledge including data, information, image, symbol, and culture, are the main resources of the third wave economy [3]. Therefore, Information Society is indicated as a historical trend, where the dominant functions and processes in the information age are organized by networks. Further, the networks have constructed a new social form, where the network logic has substantially changed the operation, resulting in the process of production, experience, rights and culture [4]. Obviously, knowledge and information are the core of the information society, which

impacted the other social factors. As a part of the society, education paradigm ought to be evolving as well, therefore currently China has established information society, thereby the emergence and development of E-education is inevitable.

2. The analyzing government policy on E-education in China

Globally, the development of E-education is closely related to the government’s education policy. Since 1993, the United States (US) government formulated and implemented the information super highway plan, and also has constructed the basic framework for the future of information technology industry [5]. Subsequently, Japan, the European Union, South Korea, Singapore, and some other countries have put forward their own plans to build an information super highway. Moreover, E-education has also achieved rapid development in these countries.

The start and development of E-education in China also follow such a law, which is the government (usually formulated by the Ministry of education (MOE) and obeyed by all provinces and autonomous Regions) issues the laws, regulations or notices to conduct and encourage the development of E-education. Additionally, they also always formulate policies to promote E-education according to the situation of the information society development during different periods as shown in **Figure 1**.

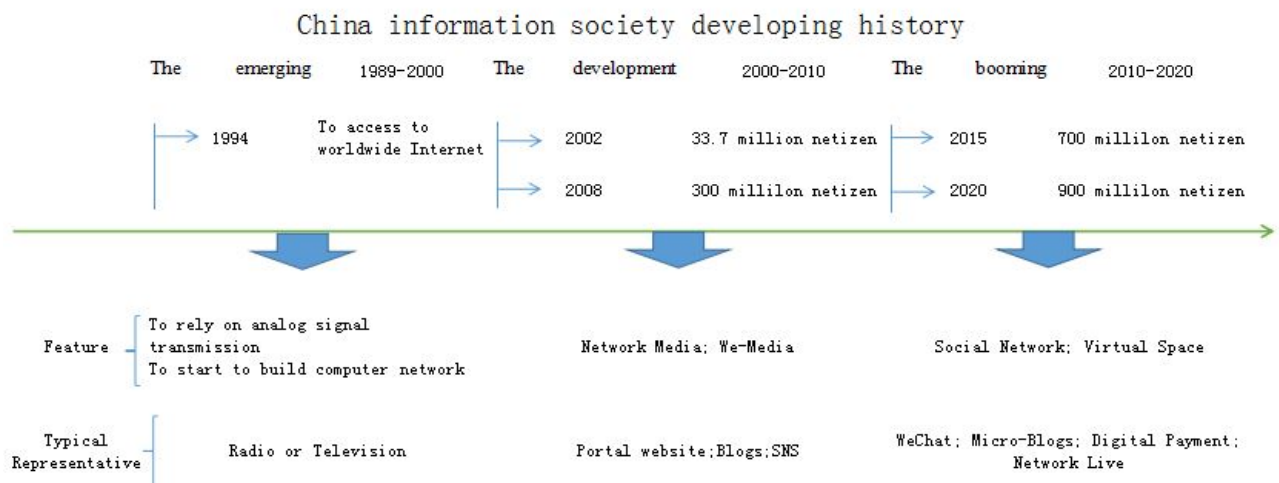


Figure 1. China information society developing history

The E-education is starting to emerge before the year 2000. In 1989, China began its reform and opening up, to vigorously develop the social economy, and advocated that science and technology as the primary productive forces [6]. The primary task for education field is to restore higher education and provide opportunities for younger generation. During this period, the government issued about 26 documents related to distance education. In 1985, the Central Committee of the Communist Party of China promulgated the decision on the reform of the education system, proposing that radio and television education as an important part of China’s education, resulting in the rapid development of China’s Radio and Television University. During this time, the role of radio and Television University is as a compensation of regular school, and its main task is to re-educate adults who could not enter the school. In 1986, the government formulated the Seventh Five Year Plan (1986-1990), proposing to establish TV education channels in the next five years, subsequently makes an effort to develop TV education by using various means [7]. In the same year, China began to build China’s education and scientific research computer network, which is the prototype of China’s Internet today. In 1993, the outline of China’s educational reform and development

was promulgated and implemented, which proposed to strengthen the work of electronic education, and radio and television education in schools, and clarify the construction of electronic education network system covering the whole country by the end of the century, including in rural and remote areas ^[8]. By announcing this policy, China had started the construction of computer networks throughout the country, promoting the sharing of high-quality education resources. In 1994, China initially connected to the world Internet. The State Education Commission approved an important document regarding the opinions on the implementation of the outline of China's educational reform and development by the radio and Television University, which clearly stated that "Radio and Television University should be turned into an Open University of distance education in China in the 21st century" ^[9]. Meanwhile, In 1998 MOE officially approved Tsinghua University, Beijing University of Posts and telecommunication, Zhejiang University, and Hunan University as the first batch of pilot schools of E-education. In 2000, MOE approved 68 universities to include E-education in colleges and issue diplomas.

By analyzing the key words of policies as shown in **Figure 2** (1989-2000), we can see that the policies during this period, mainly focuses on electronic education, and mainly relies on television, satellite, and radio for E-education. The keywords, teachers, teaching materials, and training as mentioned in the policy required the teachers to train relevant electronic education knowledge and skills, and require teachers to develop teaching methods and materials which are in line with the new way of teaching. There are a few keywords about computer and network, which shows that E-education is in the primary stage, and electronic equipment is only as an auxiliary tool.

The development period of E-education is from the year 2000 to the year 2010. To adapt to the development of modern technology, the government had issued more than 50 related policies, such as in 1999 the action plan for revitalizing education in the 21st century was issued by the State Council, pointing out the task of the modern distance education project is to build a social atmosphere of universal learning and lifelong learning, and constantly strengthen the construction of open E-education by sharing the high-quality resources, and promoting the reform of the education system and the innovation of education methods. The implementation of the modern distance education project is to solve the problems of the lack of education resources, and to minimize the differences of regional education and the polarization of education in China. In 2004, MOE issued the education revitalization plan for the year 2003 to 2007, which requires the implementing the education informatization construction project by vigorously establishing and promoting high-quality courses in higher schools, and striving to realize the sharing of high-quality education and resources by network ^[10]. Further, in 2010, the State Council issued the outline of the national medium- and long-term education reform and development plan (2010-2020), which clearly pointed out plans to further strengthen the development and application of high-quality resources, and to realize the modernization of education, basically form a learning society and enter among the powerful countries in human resources by 2020, therefore around 44 TV universities and more than 1000 teaching sites were implemented.

By analyzing the policy keywords as shown in **Figure 2** (2001-2010), it was found that the teachers teaching and training is still hot in the policy, where the word technology and resources had become a hot keyword. The policy, especially emphasized the importance of construction of information infrastructure, especially the infrastructure construction in backward areas, and used technology to realize resource sharing.

The blooming period of E-education is from the year 2010. The development of ICT breeds new business forms in China's social, economic, cultural, further China's education model has also undergone fundamental changes. During this period, China issued about 48 E-education policies. In 2011, the 12th five-year plan issued by the central government put forward plans to promote the construction of digital campus, to innovate the network teaching mode, and to accelerate the process of school management informatization. Meanwhile, in 2012, MOE issued the ten-year development plan of educational

informatization (2011-2020). The plan required the integration of information resources and management, information technology and education, and deployed the work of education informatization in the next ten years. In 2012, Radio and Television University officially changed its name to “National Development University,” and in 2013, Tsinghua University and Peking University announced to officially join the famous global MOOC platform EDX. In 2013 it is also widely regarded as the first year of China MOOC [11]. The education law which is revised in 2015 proposed to establish educational informatization in the form of legislation for the first time, to encourage schools to use modern teaching mode. Lastly, in 2018, the education informatization 2.0 action plan was issued, which proposed to build an education system based on network, intelligence, and lifelong [12]. At present, online micro courses, flipped classes, and SPOC was widely used.

By observing the frequency of policy keywords as shown in **Figure 2** (2011-2020), it is no doubt that resources and application had become the focus during this period. The policy further encouraged schools to develop and share resources, and built an education network resource system. The development of education informatization focused on the application. The teachers, teaching and training was still an important, which emphasized to improve teachers’ application ability of information technology.

The China E-education Policies Keywords Statistics

1989-2000		2001-2010		2011-2020	
Keywords	Word Frequency	Keywords	Word Frequency	Keywords	Word Frequency
Electronic Education	184	Construction	1579	Resource	987
Teaching	176	Technology	1564	Application	924
Teaching Material	81	Resource	1498	Teaching	745
Teacher	72	Teacher	1497	Teacher	440
*****	*****	Training	1018	Training	216
Methord	2	Teaching	919		
Computer	2				
Network	1				

Figure 2. The China E-education policies keywords statistics

3. The reflection on E-education during its developing

Currently, with the support of computer, big data, cloud computing, IoTs, and AI, countries and their educational institutions around the world have begun to invest huge efforts in building E-education. However, people gradually find that the technology-based education did not produce the expected results. According to research, students who use computers too much, have worse grades, meanwhile in countries with a significant education technology facility, showed that students’ grades in reading, mathematics and science, have not significantly improved [13]. Scholars also doubted whether E-education can really trigger a revolution in pedagogy. A study showed that although online learning is slightly more effective than traditional learning, however, more advantages can be seen when mixed methods (the combination of face-to-face teaching and online learning) were used, and the effect of learning that is led by a teacher is much better, compared to independent learning [14]. Information technology seems to realize personalized learning, flexible learning, and make use of the time more efficient, but to build an identity in the network is becomes a risk. In the virtual space, it depends on everyone being connected, busy and energetic, however, it also makes people to feel homeless, distracted, and fragmented all the time [15]. In the addiction to technology, it intensifies the alienation between people and real, and education exchanges become more and more diffuse. Learning and asking become information replying, which are sent casually in the network [16].

Chinese scholars have also begun to reflect on E-education, where Yan GC pointed out that in today’s education technology, most of the platforms and applications (App) are developed for efficiency or to provide refined tools for monitoring [17]. Technology may become an alien force for education liberation,

and it serves as the control of human behavior, and even becomes an invisible tool for rights and capital to the control man. In the era of technology, people's worship on technology leads to the retreat of "man." Artificial design and control cannot lead to the realization of the higher education purpose. Additionally, Liu TF (2010) pointed out, an important problem faced by today's children is that they are increasingly surrounded by man-made world, who can't find or feel the nature of life, and their vision of life is closed at the beginning of their life. The most direct result of education technicalities is to change the nature of teaching activities into a purely technical activity, losing its most basic humanistic dimension and value attributes, which unified technological teaching method which makes teachers to lose the possibility and conditions for enjoying the freedom of teaching ^[18]. In addition, scholars also began to reflect on the E-education practice ^[19]. In 2018, Sun YQ pointed out by observing classroom teaching, that under the control of instrumental rationality, teaching activities are interpreted linearly, which seriously dispels the rich connotation of teaching and makes it a single practice of imparting knowledge ^[20]. When technology dominates teaching, and when technology replaces teachers' subjectivity, this will seriously restrict and stifles teachers' practical wisdom and teaching style. Teachers do not think about the improvement of teaching art, but stick to finding problem-solving methods from novel technologies.

3. Conclusion

With the establishment of the network society, the emergence of E-education in China is inevitable. Obviously, its development is inseparable from the support of government policies, where the development history of E-education in China has clearly proved this fact. On the other hand, through research by scholars, it is not difficult for us to find that the large-scale application of E-education has brought more negative effects than positive effects. Although E-education improves the dissemination efficiency of knowledge and overcomes the shortcomings of traditional education in teaching and learning, when it falls into instrumental rationality in the process of E-education and relies too much on technology, we could not achieve the educational goal. On the contrary, it causes more serious education problems. E-education is only a means, and "people" are the ultimate purpose of education.

Disclosure statement

The author declares no conflict of interest.

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