Analysis of the Application of MOOC in higher Education Based on SWOT

Xiaogang Chen [1,2], Suyu Wang[1,2], Huaiyu Feng[1,2]

[1]School of Urban Construction, Jiangxi Normal University, Nanchang 330022, China;

[2]Geodesign Research Centre, Jiangxi Normal University, Nanchang 330022, China.

Abstract

with the upsurge of MOOC research becoming more and more ferocious, higher education in the world is quietly changing. SWOT method is used to analyze the advantages, disadvantages, opportunities and challenges of the application of MOOC in higher education in China. Among them, the advantage of MOOC lies in the innovation of technology and education; the disadvantage of MOOC lies in the decline of teaching standards of online courses, which can not fully stimulate critical thinking and lack of intimacy of face-to-face communication; the opportunity of MOOC lies in the development of "lifelong learning" to "lifelong learning" and breaking the space-time boundary of education in our country. The challenge of MOOC lies in our country's faith. The level of information technology is limited, the attitude of learners using MOOC platform is loose, and the energy of educators is insufficient.

Keywords

MOOC; higher education; SWOT.

1. Introduction

Since the first year of the curtain in 2012, scholars all over the world have been immersed in the MOOC boom, and a revolution in higher education in the world has quietly begun, just as Stanford University President John Hennis likened MOOC to a "digital tsunami" in the history of education. So what is MOOC, and why is it so charismatic and charismatic? The tide of MOOC in China has followed the development of foreign countries, and has made some achievements, such as Peking University, Tsinghua University, Shanghai Jiaotong University, Tongji University and other colleges and universities have also done a lot of MOOC. Therefore, the author began to reflect on whether MOOC is only a kind of modern teaching. The progress of educational technology, or is it a new subversive educational revolution? How to change the relationship between teaching and learning in universities in the future? can MOOC be well applied in higher education in China? Based on these problems, this paper will use SWOT analysis method to analyze and explore the inherent advantages and disadvantages and external opportunities and challenges of MOOC in higher education.

2. The connotation of MOOC and SWOT

MOOC (Massive open online course) refers to "large-scale online open courses", its most prominent characteristics: large-scale, online, open[1]. "large-scale" refers to the large number of people studying, a MOOC course can have tens of thousands of people enrolled at the same time, so that dozens or hundreds of people in traditional courses suddenly become a fraction of it. "online" refers to online learning by watching videos, doing exercises and so on, regardless of time and space. "Open" means that learners around the world can learn online courses free of charge by simply linking to the Internet. Class Course resources are open to all course electors, and curriculum resources are no longer restricted for university learners to share. For example, an ordinary learner in China can take courses at Harvard or Stanford through the MOOC platform. MOOC courses cover all subjects of science and technology, are recorded by professors from all over the world and are provided by different MOOC platforms. At present, the MOOC platform and recognized by the mainstream media are EDX,COURSERA and UDACITY, all of which are created by professors of the world's top

schools. EdX is taught by Harvard University and MIT in the United States. Education innovation, which is an independent non-profit organization, and COURSEERA and UDACITY are the innovation results of the University of Stanford University. These two platforms are profit organizations, and COURSERA has the longest operating time among the three camps of MOOC platform, and the abundant curriculum and multilingual features attract the largest number of learners. These three platforms alone have brought together hundreds of courses and millions of registered learners, which are not comparable to any university in the world.

SWOT is an analysis method, that is, based on the internal and external competitive environment and competitive conditions of the situation analysis, that is, the main internal advantages, weaknesses and external opportunities and threats closely related to the object of study, through investigation and listing, with the idea of systematic analysis, the various factors are matched to each other to analyze, from which a series of corresponding conclusions are drawn, which usually have certain decision-making nature. By using this method, the situation of the research object can be studied comprehensively, systematically and accurately, so as to formulate the corresponding development strategy, plan and countermeasures according to the research results. SWOT is made up of its 4 "S" means "STRENGTHS" means advantage, "W" stands for "WEAKNESSES" means inferiority, "O" stands for "OPPORTURUIFIES" means opportunity, and "T" stands for "THREATS" means threat and challenge. This paper analyzes the possibility of the application of "curtain course" in higher education in China by using SWOT analysis method, so that our country can better grasp the opportunity and fully meet the great challenge brought by MOOC in the face of the surging trend of global online education and the opportunity that may be fleeting.

3. The advantages of MOOC Application in higher Education in China

MOOC is a new mode of education and learning in recent years, which has attracted the attention of the whole educational circle and even the whole society. This kind of concern is not only in the classroom of colleges and universities, but also a technological innovation that can not be ignored in enterprises[2]. MOOC is the revolution of technology and education, so its advantages are mainly reflected in the two aspects of technology and education.

3.1 MOOC′s advantages of information technology innovation

Before the birth of MOOC, radio, computer, radio education, television education and network education were also popular, especially the online open class or distance education in network education has actually realized the concept of large-scale learners and open online courses in technology, but although these online courses have realized large-scale, open and online services, However, there is no large-scale mutual participation and real-time feedback in technology, which is the key to truly change the university teaching mode and bring network education and university campus into the same teaching time and space. However, the reason why MOOC is possible to achieve such a revolutionary breakthrough is It lies in the innovation of information technology. First of all, the three operating platforms of MOOC, EDX, UDACITY, COURSERA are created by computer teachers in colleges and universities all over the world, which is symbolic. This forms a bridge connected by computer network and university education. MOOC courses often have thousands of people in the same school, and when they run and interact, they will produce a lot of complicated information data, which are traditionally scored, tutoring and discussion by university professors or teaching assistants. And now it's all available to computers and the Internet to complete, students' learning behavior. The resulting basis is also recorded and analyzed by the server, and how to store, transmit and process data quickly is supported by cloud computing and artificial intelligence technology. Therefore, big data, cloud computing and artificial intelligence and other technologies replace higher education from the industrial era to the digital age. Therefore, MOOC integrates the concepts of online learning, social service, big data analysis and mobile Internet to realize large-scale real-time information exchange and interaction. The technical breakthrough is first of all in the development of computer hardware and network technology. Only the storage density of hard disk,

the amount of storage, the traffic and speed of network transmission have achieved amazing results. The growth, a large number of data can be collected, stored and transmitted; Secondly, the development of software and computer technology, the core is cloud storage and cloud computing, cloud storage is through cluster technology, distributed file system, data compression technology, storage virtualization technology, storage network management technology, to achieve large capacity data transmission, and a variety of devices to work together to achieve structured data sub-documents, pictures, videos, etc. The centralized storage and sharing of unstructured data such as audio ensures the stable operation of the system in colleges and universities. Big data processing system uses a large number of computing resources provided by cloud computing platform to automate huge data. It is analyzed into countless small parts, and then processed by the huge system through distributed algorithm, and the processing results are sent back to the user. Through cloud computing, MOOC service providers can process tens of millions or even hundreds of millions of information in seconds. That is to say, these technical breakthroughs make the man-machine relationship achieve a high degree of integration, and realize real-time interaction and big data drive.

3.2 The advantages of educational technology innovation in MOOC

In terms of education, the interaction between students and teachers, between students and students is the most important part of the increase in learning gains, but in the past interconnection video teaching, only students loose, mechanical viewing to the video, walking through the video learning, and even some learners can not insist on watching the video completely. The main reason is due to teachers and students, students can not communicate with each other. Now, due to the development of information technology, MOOC has established interactive exercises and tests automatically evaluated by machines, get feedback from learners in time, and improve or even break through the bureau of single knowledge dissemination in traditional distance education. Limitation, encourage and guide students to think more actively, mobilize the learning enthusiasm of learners, and improve the learning effect more effectively, meanwhile, automatic machine evaluation also ensures the effective and smooth realization of ``large-scale" classroom in MOOC[3].

Now, with the continuous updating of information technology, interactive practice is gradually changing to a more advanced form. Such as virtual laboratory, game learning, multimedia courseware and so on. This will also further improve the huge development space of learning, because "large-scale" learners in the MOOC platform can be launched online at the same time, so that learners all over the world can communicate with each other and communicate with each other, and they can send out their own analytical views on a common research problem, such as design courses, and learners who love design all over the world can communicate with each other on the MOOC platform. Share your views, if there is any objection, can Communicate with professors in real time and learn from each other, which can not only cover the traditional learning system, but also form a larger new learning community than the traditional classroom.

In addition, MOOC is different from the previous online video education. MOOC's powerful data capture and analysis function can record the dynamics of each MOOC learner, and collect a large number of learners' online learning data into a large database, through systematic data mining and machine learning and other tools, through macro and micro analysis. So that teachers can timely understand and master the learning status and dynamics of students and make timely feedback, guide and provide the corresponding learning resources, constantly improve and deepen the curriculum teaching content and teaching link design.

4. The disadvantage of MOOC Application in higher Education in China

There must be immaturity in the emergence and development of new things. MOOC is no exception, and its disadvantages are analyzed in terms of students and teachers.

4.1 Students' query on MOOC Teaching method

The teaching standard of online courses is declining, which can not fully stimulate critical thinking, and the learning process is completed on computer software, which lacks the intimacy of face-to-face

communication and makes people feel isolated. MOOC always provides people with a simple and fast way of learning through an Internet technology platform, but due to the lack of humanization, most learners choose more traditional teaching methods.

4.2 Teachers' doubts about MOOC credits

Teachers think that lecturing on MOOC affects their time to fulfill their other work obligations, and that students can not complete the formal credits they should receive through MOOC platform. MOOC is a relatively loose form of voluntary learning, it is difficult to insist that learners have strong learning needs and desires, so people's "inertia" and "entertainment first" atmosphere is the biggest obstacle to the development of MOOC. However, this is difficult for MOOC itself to solve[4]. As we all know, MOOC is a famous university in the world, and it is regarded as the promotion and extension of traditional teaching. If If learners get credits linked to diplomas through periodic learning in MOOC, the demand will be strong. If only rely on the interests of learners, hobbies to carry out persistent learning is difficult to develop, unless learners can see the benefits to themselves or what they very much like.

4.3 Teachers' query on the Teaching process of MOOC

Teachers' doubts about MOOC are not only reflected in the formal credits obtained by students, but also in the teaching process. Teachers in humanities and science and engineering are not satisfied with MOOC teaching. As a humanities, the teachers of humanities focus on the teaching evaluation of MOOC. Gary of Harvard University. Professor Kim (CARY King) believes that "Humanities courses in the design and implementation of MOOC online teaching are far more difficult to science and technology courses." At present, the evaluation model of liberal arts mainly has a single choice, discussion platform and text annotation. Just like Drew Fausti, president of Harvard. In the same way, the existing evaluation procedures can not accurately and objectively evaluate the learning effect of humanities, because the computer can not judge the factors that are not within its programming. For example, writing is a way of subjective judgment, which can only be judged by teachers' traditional methods, because most of them have teachers' subjective will, which belongs to human emotional factors, which can not be changed into computer programs, and at present, the peer scoring method commonly used in liberal arts MOOC can not be changed into computer programs. Some scholars have specifically pointed out that peer scoring and traditional courses are common. There are essential differences in peer evaluation, especially the scoring part that does not require evaluation is seriously lack of reliability, because peer students often lack motivation and ability to make some serious, fair and responsible judgment. Therefore, these questions extend whether the teaching method of MOOC is suitable for the teaching of humanities. Compared with the questioning of MOOC teaching in humanities, science and technology scholars also put forward a lot of objections to MOOC teaching. Although science and technology subjects learn some objective knowledge points, computers can also evaluate the learning effect according to the input program, but science and technology such as chemistry, physics and other disciplines are mainly to do experiments. Through watching the experiment done by the teacher and drawing conclusions from it, and combining with the principles in the book, we can finally master the main points of knowledge. However, when learning through MOOC platform, learners can not personally see the teacher doing the experiment, and even the teachers will omit the link of the experiment, students can not feel the role of the experiment at all. Therefore, the concept or formula of principle can only be memorized by rote, and the learning effect and learning quality are relatively low, which is also the question of the teaching method on MOOC platform by scholars of science and technology.

5. Opportunities brought by MOOC to higher Education in China

As Pearson's unCher Barber (Michael Barber) points out in his book Avalanche come, "the situation today is that digital technology is forcing the development of teaching, and universities do not advance or retreat in the field of online courses." Chen Jining, president of Tsinghua University, also pointed out that the birth of "large-scale" online open courses has brought about the blowout

development of online education, like a tsunami, which has brought great shock to traditional higher education. Therefore, MOOC is both an opportunity and a challenge to the development of higher education in China. . In our country, the revolution of higher education is associated with the expansion of university function. The college stage will experience three development stages and models from spreading knowledge to creating knowledge, to serving society. Now, facing the online education MOOC, what opportunities will be brought to the cause of higher education in China? It is mainly shown in the following aspects:

5.1 MOOC promotes flattening of educational resources

MOOC will greatly promote the development of learning society, make "lifelong learning" develop to "lifelong learning anytime, anywhere", promote the fairness and democracy of education in the aspects of learning content, time and space, way and so on, and form the flattening of high quality educational resources. At present, several large MOOC platforms are all founded by the top research universities in the United States, and their partners are also the top famous universities in the world, which will break the knowledge barriers and educational gap between different countries, regions and different schools. Excellent educational resources are no longer the patent enjoyed by top school students, it will become a resource available to the public, which will greatly promote The fairness and fairness of education, and MOOC not only provides high-quality educational resources, students can also choose a certain course of a school, students can choose a professional teacher suitable for their own course, including the specific content of teaching, teaching methods, and even evaluation methods, which fully reflects the educational democracy. For example, hundreds of thousands of students in China spend a lot of money to study in developed countries in Europe and the United States every year, but not all of them can learn the knowledge of the top schools in developed countries. Through the MOOC platform, students do not have to go to Chongqing to study, and they can get learning resources through the Internet at home.

5.2 MOOC enables education to break through the boundaries of time and space

The characteristics of MOOC determine that it will be able to significantly expand the range of learning activities in both space and time, with different countries, different races, different economic, cultural backgrounds, different occupations, and all students who are in or out of school can take the best courses in the world at the same time, especially for vulnerable groups in education, such as students in remote areas, rural students, and students who often migrate. There are also disabled learners, including elderly learners, who do not have to travel long distances to study in universities with barriers, but to choose MOOC courses according to their own circumstances. For example, in Tibet and Xinjiang, China Learners want to take courses at Tsinghua University. They don't need to go to Tsinghua University in Beijing in person. They just need a computer that can access the Internet.

5.3 MOOC stimulates the potential of higher education

MOOC was created by professors of the world's top schools and worked with other top universities in the world. It has advantages in teacher resources, curriculum design, technical support and so on. The top universities will undoubtedly become the main force of the MOOC cause in various countries. These top universities not only have their own high-end education system, but also can use their own influence to thoroughly influence the content of education and teaching in other countries. Resource allocation and operation mode. The cause of education in China is not so much a "episodic fever" as an opportunity to promote communication and links between Chinese institutions of higher learning and the top colleges and universities in the world. May 2013 On the 21st, Tsinghua University and Peking University announced that they had officially joined EDX, the American online education platform, to become the first Asian university members of EDX. Since then, Peking University, in cooperation with COURSERA, has opened up a number of courses to be shared with learners all over the world. After Tsinghua and Peking University, many first-class universities in mainland China have not hesitated to join the MOOC "big family." this "bringing in and going out" model can not only learn the teaching ideas of top foreign universities, but also transmit the educational ideas of our country, so that people all over the world can better understand Chinese education. In this way,

China's education will be greatly enhanced and improved all over the world. Competitiveness and status of education.

5.4 MOOC promotes the Innovation of higher Education Model

Chen Jining, president of Tsinghua University, said: "although there is still a great deal of uncertainty about the development prospects of MOOC, the situation is that the sharpest and profit-seeking venture capital is pouring into online education on a large scale, and all of them want to rush for the beach in this area," said Chen Jining, president of Tsinghua University. A new competition for Internet investment and entrepreneurship has just begun, and while the business model of online education is still being explored, it is possible to give birth to new great Internet companies. Therefore, our country must also grasp this "MOOC" business opportunity, open up a new Internet business model. At present, as foreign enterprises have logged into China in various forms, in addition to cooperating with domestic colleges and universities, Join forces with some large enterprises to open up the market. For example, Youku announced an exclusive official cooperation with UDACITY, an online education network, and NetEase announced a formal cooperation with COURSERA, a large-scale open class in the United States, so that Chinese enterprises can seize business opportunities and create profits in the form of cooperation with foreign enterprises. Now, our country has independently developed and launched the Chinese MOOC-- school online. A number of famous universities in the three places on both sides of the strait have joined one after another to talk about the future of MOOC. Therefore, Chinese enterprises can explore a unique business operation mode from this platform. These include: 1 using the website of the high The advantage of click-through rate, attract advertisers to join, make profits through advertising sales. 2 use the popularity of MOOC to develop and sell related products, such as course CD-ROMs, offline tutoring, etc. 3 when the platform has influence, attract top foreign universities to join, make it have global influence, then consider transferring the brand to large domestic or foreign enterprises. 4 make use of the existing resources of the platform, Sell to some universities that need this resource.

6. The Challenge of MOOC Application to higher Education in China

MOOC is still in its infancy in China, and all aspects are facing great challenges. First of all, from the technical point of view, there is a big gap between the level of information technology development in China and the advanced countries in the world. The United States is the birthplace of computers, and the subversive nature of its information technology has detonated the revolution in the Internet era, which is incomparable to that of our country at present. Although China's information technology has been developing continuously since the reform and opening up, speeding up the study of information technology in the developed countries in the world, and has also done some research academic achievements and set up some local Internet enterprises, but after all, we are still a learner with a weak foundation, such as MO. Cloud computing, cloud storage, big data, network video technology used in OC, our country in these fields of technology belong to beginners, this gap can not be caught up in recent years or decades; Secondly, for learners, when using MOOC platform to learn, the attitude is loose, the persistence is not strong, remember to go to school, do not remember to learn, because there is no pressure in this kind of learning, there is no pressure on the lack of motivation, and the curriculum of the world's top schools on the MOOC platform is all English, which creates an invisible obstacle for learners who do not understand English in our country, especially in some underdeveloped areas and rural areas of our country. District learners, who do not have the basic ability to communicate with foreign languages, let alone study high-end courses, which is only for them to listen to heaven books. Even worse, in some remote mountainous areas of China, there is no computer and Internet at all, so it is impossible to teach class through MOOC platform;Finally, from the perspective of educators, our country's educators are not very keen enough, not enough investment in teaching, energy, limited ability and technology, enough passion for online teaching, unable to explore the reform of education teaching, especially under the current evaluation mechanism, teachers have no driving force to think and try new teaching methods, the most important thing is in me. China's traditional "6 3 3" teaching mechanism is difficult to shake. Under the existing

evaluation mechanism, the degree certificate of MOOC does not have the social recognition, so the learners in our country can not accept this kind of education mode of "only blooming and not bearing fruit".

7. Suggestions on the Application of MOOC in higher Education in China

Through the analysis of the application prospect of MOOC by SWOT, the reform of higher education teaching mode in China should seize the advantages, cover up the disadvantages, recognize the challenges, seize the opportunity and promote the feasibility of the application of MOOC in higher education in China. The author thinks that the following strategies can be adopted: first, to formulate a clear and clear national online education strategy, standing at the height of the international challenge, the overall situation of national education and the talent strategy. Strengthen understanding and grasp the development trend of online education, formulate the strategy of developing online education, and form the joint force of long-term gathering and development. Secondly, the MOOC teaching mode is deeply studied. Mainly through: (1) reference countries Foreign distance education experience, to create a more perfect learning support service system; (2) to set up a high-level teaching staff suitable for MOOC teaching model; (3) to combine MOOC and traditional classroom closely or with other new learning models to learn from each other and make up for their weaknesses, to form a set of unique and innovative new education model; (4) establish strict curriculum evaluation standards and assessment system, and link the excellent curriculum content, curriculum structure, learning objectives and employment needs in teaching. Finally, we will actively prepare for the establishment of some unique MOOC platforms in China. MOOC education is a new application of Internet technology, relying solely on the investment of universities. Very limited, the state must establish a "government support, university-led, enterprise participation, open competition" new education platform construction mechanism.

MOOC is a new thing, such as tsunami, storm, set off huge waves in North America, and lift this huge wave to every corner of the world, turn the whole educational world upside down. MOOC magic is no exception to the Chinese educational circles. How to meet this huge wave of MOOC requires Chinese educators to emancipate their minds, seize opportunities, make a difference, explore, innovate and constantly improve in practice. It contributes to the improvement of the quality of education and teaching in our country in an all-round way.

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The author introduces:

1 Xiaogang Chen, male, from Jiujiang, Jiangxi Province, master's supervisor, the research direction is landscape architecture education;

Address: school of Urban Construction, Jiangxi normal University, 99 Ziyang Avenue, Nanchang City;

E-mail：cxg 2006090268@126.com

Tel:13870954337.