Influences and Enlightenment of MOOC in Higher Education

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Abstract—**The talent training objective of higher education is to "establish morality and ethics, strengthen the intelligence and ability", which is the starting point and foothold of higher education. In the 21st century, college students have become extremely dependent on the Internet, and it has been the "second space" for their learning and life. Therefore, in order to truly realize the training objective of higher education, it is necessary to research the influences and changes brought by the Internet on higher education, among which MOOC is the most representative. As a new on-line learning method, its influences and enlightenments on higher education have aroused great concern over the field of education in recent years.**

Keywords—MOOC; higher education; experience reference; enlightenment

I. INTRODUCTION

In June, 2016, the Ministry of Education formulated and issued the *13th Five-year Plan for Education Information*, which stressed that by 2020, the education information system that can make it possible to learn at any time in any place should be basically established, and it should be corresponding with the national development goal of "Internet plus Education". In addition, education information should promote students' all-round development in morality, intelligence, physique and art, guide the further reform of education, and make education more innovative, balancing, effective and high-quality. An education information development mode with Chinese characteristics, featuring advanced international level and integration of information and teaching, should be basically formed. There are three documents with the similar goal, all of which have clarified the main problem faced in our current education under the era of "Internet plus Education" and the working thought and goals for the future five and ten years, and made a plan and pointing out a direction for national education information work in the new era. And these documents are the *Guidelines of the National Program for Medium- and Long-Term Educational Reform and Development (from 2010 to 2020)*, *Ten-year development plan for education information (from 2011 to 2020)*, and *The 13th Five-year Plan for Education Information.*

The era of Internet has changed the talent training objective of higher education from standard and professional talents to diversified and compound ones. And the method of producing, acquiring, developing and spreading knowledge is experiencing the major shift under the influence of Internet and information technology. The double changes have made higher education trapped into the trouble but also brought it with new opportunities. The limit of learning time and space has been broken and it has realized the sharing of education resources, independence of learning process, information of mutual behaviors, individualization of learning styles, the whole-process of learning evaluation and the effectiveness of teaching management. In addition, it has endowed education with new content and concepts, as well as scientific methods, shaping an education ecosystem featuring open and jointly constructing and sharing. It is the significant form and development trend of future education, also the vital driving force in education reform.

MOOC, the open on-line course initially begun in America, has provided a new on-line classroom teaching mode and learning method, and brought a profound change in education concepts, system and modes, as well as talent training. In terms of classroom teaching mode, it is based on the theory like the constructivism, adopting fragmented teaching and flipping classroom teaching and integrating short video learning, on-line free discussion, tutoring and test. It is oriented with students and independent learning. Under the pushing of such a global wave, numerous colleges in our country are making efforts to establish new open courses adapting China's development and our own MOOC. The above advantages of MOOC in classroom teaching mode are exactly what our traditional one lack, so its enlightenment on reforming and constructing new classroom teaching mode is worth referring.

II. THE HISTORY OF MOOC AND ITS DEVELOPMENT

MOOC, short for Massive Open Online Course, has experienced a long-term development rather than a sudden technological invention. Back to the 1960s, Douglas Engelbart, the "father of mouse" in America, put forward that computer is expected to change current education system, and this plan is always in the difficult exploration as one of significant reforms of human learning. However, things turned around in 2007.

In this year, David Wiley, an American scholar, developed a coursed called Introduction to Open Education on the basis of Wiki. The course can teach people around the world and provide lots of materials and content by means of Internet. Namely, all learners are also the constructors for the course. His success was owing to the mature technological platform of

Wiki, and its joint sharing and constructing functions made the course have the initial form of MOOC.

In the next year, Stephen Downes and George Siemens from Canada learned from David Wiley, and jointly established the course of Connectionist and Connected Knowledge, which successfully used the theory of connectionist, supported open on-line courses, and adopted the method of learners jointly constructing the course. Such tolerant manner has absorbed lots of learners, so it became the first MOOC in the world. After that, lots of famous colleges participate in the MOOC.

In 2011, Sebastian Thrun, famous as "the father of unmanned car", and Peter Norvig, a professor in Stanford, jointly established the Introduction to Artificial Intelligence, which has absorbed 160 thousand people to register and learn. It is a miracle in the history of human learning and valuable commercial opportunity that so many people learn the same course at the same time but different places. Harvard University and MIT jointly constructed the platform of edX. Andrew Ng and Daphne Koller, professors of Stanford University, also jointly established the platform of Coursera. So far, the three great platforms of MOOC have been totally established, and they became the pioneers of pushing MOOC in global higher education. They are called the troika of MOOC. The New York Times also highly praised them and called 2012 as the "first year of MOOC".

The year of 2013 witnessed the fast spreading of MOOC around the world. Besides these three great platforms, there are some other platforms like OpenupEd from Europe, Futurelearn from Britain, Iversity from Germany, Open2study from Australia, Gacco from Japan, Veduca from Brazil, Codecademy focusing on program design and Udemy holding that everyone can teach. MOOC was experiencing its golden development.

In 2016, Udacity given up its cooperation with colleges, and it has begun to devote to the training of computer or new technological area. Andrew Ng and Daphne Koller, the joint constructor of Coursera, also quitted the job and began to work for AI, big data, robots and other advanced research work. But the number of learners on MOOC in our country is still lower than the expected. Although it just experienced less than eight years, MOOC has far-reaching influences on the learning methods of human beings. Maybe the evaluation of experts and scholars on MOOC varies from each other, but its influences and revolution on current education teaching is worth carefully analyzing and researching.

III. THE INFLUENCES AND ENLIGHTENMENT OF MOOC IN HIGHER EDUCATION

A. The influences of MOOC on higher education

1) MOOC can help realize the function of colleges

The meaning of establishing and developing higher colleges and universities is to realize the function of colleges, each of which is related to the development of higher education and progress of social economy. At present, increasing cost of higher education but decreasing quality have severely affected the realization of college functions. Fortunately, the advent of MOOC has solved these problems. Its large scale, sharing and

opening have helped more people accept high-quality teaching resources, reduced the costs and threshold for education, and strengthened the function of serving society. The interactivity and personalization of MOOC have realized the deep and individualized learning, and effectively improved the quality of talent training. Therefore, MOOC is helpful to realize the function of colleges.

2) MOOC can help improve the quality of higher education

Some characteristics of MOOC like opening, free and large scale, have given more people opportunities to learn from the courses of famous universities and high-quality education resources, and greatly improved the popularization and quality of higher education. In addition, MOOC can help learners break through the limit of time and space so that they can preview and review knowledge based on their own time. Such a method can not only make their learning time more flexible but improve their ability of active learning. Meanwhile, MOOC is helpful to popularize college courses among the public. Along with the improvement of related laws and regulations, the commercial incomes brought by MOOC can help more college teachers have access to the making and producing of on-line courses, and their course quality can make enormous progress.

3) MOOC can help expand the objects of higher education

The opening of MOOC makes it possible to hold thousands of learners at the same time, greatly expanding the objects of higher education. Nowadays, more and more people accept the concept of lifelong learning. Accepting higher education is just one of the phases of learning, while lifelong learning is the necessary method of realizing all-round development and adapting society. Based on the Internet and information technology, MOOC has broaden learners' time and space, and it has provided possibilities for realizing lifelong learning. MOOC can make more people have access to high-quality education resources and college education. Especially for those people who are poor or vulnerable, it can basically narrow the gap between the rich and the poor, promoting education justice and the development of human civilization.

4) MOOC can help transform the mode of higher education

In the current teaching mode of higher education, classroom teaching oriented with face-to-face learning is still the most popular. Such learning method is beneficial to deep learning, and it can give play to teachers' role of imparting knowledge and organizing teaching, but neglecting the dominant position of students in the whole learning. The specific features of MOOC are its interactivity, opening and independence, all of which are changing the traditional mode of higher education. In MOOC, students become the main body of learning process. Teachers are not just imparting knowledge anymore, but the designer and promoter of learning as well as psychological tutors. MOOC has changed the teaching method of the traditional classroom, which is oriented with teachers and has a single teaching mode. However, in MOOC, courses mainly adopt videos, cartoons, pictures and audios. Based on the abundant resource of the Internet, the teaching mode of MOOC can be flexible and diversified, greatly improving

students' participation and learning interests. The interactivity of MOOC can get rid of the limit of time and space, so it is good for deep learning and communication, providing new platform for the innovation of higher education mode, and strengthening students' ability of independent learning.

5) MOOC can help enrich the resource of higher education

Compared with traditional courses, the producing of MOOC can break through the limit of colleges and subjects. Just learning demands can produce a new MOOC. And the learning materials of some MOOC are provided by learners around the world so that they can constantly grow up and their content amount can get increase. The opening is one of the great characteristics of MOOC. Teachers or course constructors can increase knowledge and course content at any time in any place so that course content can be constantly upgraded. Therefore, the content of MOOC is far larger than that of traditional course. The abundant knowledge resource of Internet can be applied in courses by means of the opening of MOOC. If there is a need, the resource can be easily acquired, which can greatly enrich course content and students' vision. The advantage can't be reached in traditional paper materials.

6) MOOC can help make greater progress in the international higher education

The learners of MOOC are from the whole world, without the requirements of nationality or access threshold. Everyone can register and the opening of MOOC can objectively help make greater progress in international higher education. All the learners can have access to the high-quality resource on MOOC without conditions, and its education concepts must be international and global. MOOC is to serve learners around the world. MOOC adopts the universal language, especially English, which can help communication and learning. We can spread our culture and learn from the culture of other countries and areas by means of MOOC. MOOC can accelerate the cultural communication between countries and regions drive more learners from different countries to communicate with each other, and help higher education walk out of the country and towards the world.

B. The enlightenment of MOOC in higher education

1) Including MOOC into the college development plan

Even though MOOC has its own disadvantages, its core education concepts of opening, and joint establishing and sharing represent the direction of future higher education. Whether the construction of MOOC decides the future competition of colleges. Therefore, the proportion of MOOC should be rationally set in the college development plan. Its development must be prepared with enough capital and space no matter it is the fundamental facility construction of hardware or the course construction of software.

2) Encouraging teachers to carry out MOOC teaching

MOOC should be introduced into classroom teaching. College teachers are supposed to carefully learn the characteristics of MOOC, fast master the methods of using MOOC, and introduce it into classroom teaching as soon as possible. National excellent courses, video open courses of world famous universities and Chinese universities are of great

significance to our higher education. So college teachers should integrate these open education resources with their own classroom teaching practice, and improve the effect of classroom teaching and the quality of talent training by means of the platform and teaching methods of MOOC.

3) Guiding students to master the using methods of MOOC

Students are supposed to get help on mastering on-line learning methods. The fast development of MOOC can make higher education under the mode of Internet come true. However, due to the difference of learning environment and backgrounds, not every student can benefit from it. As for students, to achieve success in MOOC needs certain English basis, professional computer operation skills, and some skills and methods to using MOOC. College teachers and related educators have the responsibility of helping students master the learning methods and modes of MOOC so as to constantly improve the efficiency and quality of on-line learning.

4) Establishing the platform of MOOC with Chinese characteristics

Efforts must be made to continually explore the innovation of education modes. The mixing method of organically integrating face-to-face learning and on-line learning can not only remain the advantage of fully using the Internet to acquire abundant and diversified learning resources, but also absorb the characteristics of traditional classroom learning and strengthen the function of teachers including explaining knowledge, analyzing problems and organizing discussions. It has realized the organic integration of "teaching" and "learning" under the era of the Internet. To create current mode of MOOC and establish a platform of MOOC with Chinese characteristics as soon as possible is the new direction of our education information work.

IV. CONCLUSION

The influences of MOOC on higher education are far-reaching. We cannot fully accept it because of its strong functions, nor fully deny it due to its disadvantages. So we should correctly treat the existence of MOOC, and listen to various voices at the same time. On the one hand, we should keep up with the development of Internet and information technology; on the other hand, we should avoid blind recognition or brag its functions. All in all, MOOC is just a kind of on-line course and a tool to passing knowledge to learners by treating it as the information. However, education is not just for passing knowledge, but developing ethics and shaping personality. The realization of education goals needs the whole education force in our society. Higher education is in a phase in which course system is experiencing the rebuilding, the method of learning and teaching experiencing the reform, and education supply method experiencing the transformation. It's an opportunity for higher education to develop. Managers and course constructors of higher education should seize the opportunity to actively learn from the successful experience of other countries, take full use of the advantages of MOOC, avoid its bad effects, and truly promote the reform of higher education teaching system.

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