The Essence and Future of Massive Open Online Courses

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Abstract. As a new thing that is springing up in recent years, massive open online courses (MOOC) have become popular in students of universities and colleges. Since learners can reach high quality courses from famous lecturers of top universities over the world, MOOC has become a kind of supplementary provision to the traditional education. The introduction of MOOC does not mean the replacement of teacher's role. Instead, teachers have more time and energy to communicate with students, helping students to shape the hearts and promote the mature of human nature. Systems for credit recognition and teaching evaluation should be established, which would help teachers and administrators to improve teaching programs and teaching quality.

Introduction

The internet has changed our styles of learning in addition to working, living, and entertainments. In recent years, massive open online courses (MOOC) have arisen in universities and colleges worldwide through internet, which broke the “wall” among universities and brought out the changes of learning style.

The Status of MOOC

The MOOC was founded by top universities of United States of America in 2012. The courses were freely open to students and became popular with the help of service providers such as Coursera, Udacity, and edX. All the courses were aimed at high education and were run by their own systems, just like a real university. For example, the Coursera company collaborated initially with 33 universities including Columbia University and Princeton University. It announced the joining of additional 29 universities in February of 2013.

The National University of Singapore co-operated with Coursera and joined the MOOC in February of 2013. As the first university in Singapore that reached cooperative agreements with Coursera, the National University of Singapore pioneered the courses of quantum physics and creation of classical music through the MOOC of Coursera.

Tsinghua University joined the American online education platform edX in May of 2013, becoming a member of the first wave of Asian universities that joined edX. Tsinghua University was staffed with high level teaching teams and launched four courses at early stage. All the courses were open to global students. Tsinghua University will establish its own online education platform in China in the future to expand the online education platforms. The measures will promote the opening and sharing of high quality educational resources and provide broader educational service for students. “Online education provided a completely new mode of knowledge dissemination and learning, which would initiate a great reform of high education”, said Chen Jining, the Former director of Tsinghua University. The reform includes innovation of educational technology, and changes of educational conception, educational systems, educational methods, and training patterns.

Tsinghua University carried out extensive work in online education. The Department of Computer Science and Technology, together with Institute for Interdisciplinary Information Sciences, Department of Psychology, and Institute of Education, started “Research Center for MOOC of Tsinghua University”. With the aim to promote the integration of network and education, and to elevate the quality and efficiency of learning, the center conducted intensive studies on
principles of teaching and learning. In fact, the Institute for Interdisciplinary Information Sciences previously introduced MOOC courses “cloud computing and software engineering” of University of California at Berkeley through edX. They re-developed the courses according to the teaching conditions and the characteristics of students of Tsinghua University. The university would promote teaching reformation with the aid of edX platform and become a pilot unit of mixed teaching model.

In addition, Fudan University and Shanghai Jiaotong University joined Coursera in succession in July of 2013. MOOC College covered by Guokr came online in the same year. As the largest learning community in Chinese, MOOC College includes more than 1500 courses. More than 500 thousand students share and discuss the courses through the platform [1].

MOOC raised a tidal wave in the educational communities worldwide in 2012, and whipped up a hurricane in the educational circle of China in 2013. Nearly 20 conferences or forums on MOOC were held. Universities such as Peking University and Tsinghua University signed with American MOOC platforms. 15 online courses were freely open to global students. Learning courses via video online became a popular choice among students. MOOC went worldwide and obtained prizes and applauses, a good few of reasonable and objective thoughts were provoked at the same time.

The Ministry of Education of the People’s Republic of China launched <Suggestions as to strengthen the application and administration of MOOC in universities and colleges> in April of 2015. The document suggested “To establish the systems for credit recognition and management, and to encourage universities to make evaluation criteria for teaching qualities of MOOC. The MOOC courses confirmed by universities should be included in training programs and teaching plans, and methods for evaluation of teaching effects and identification of MOOC credits should be worked out by universities. Universities are encouraged to develop the credit recognition and credit transferring basing on learning online or combination of online learning and classroom learning”. Many universities have proceeded to establish mixed teaching model in favor of online self-directed learning. The model would allow students to learn some designated courses through internet and encourage students to attend MOOC courses of well-known professors at top universities.

The Advantages and Problems of MOOC

Various teaching resources cross the space through internet, making the high education a kind of open education that radiates out of campuses. The MOOC exposes some problems when it exhibits great advantages.

Advantages of MOOC

**Pluralism of learning tools and resources.** By integrating various social networking tools and digital resources, the MOOC courses have become pluralistic learning tools and resources. The MOOC courses have exhibited great advantages in general optional courses. Many key universities of China introduce MOOC courses, and the courses are even adopted in all teaching programs in some universities.

**The MOOC courses are easy to use.** Students all over the world can learn high level courses from home and abroad, breaking through the restrictions of time and space of traditional courses. Anyone can learn any courses at any places whenever and whatever chapter he likes to start [2]. The distance network education embodies the active learning mode and meets the demands of modern and lifelong education.

**Wide audience of the courses.** The MOOC courses can meet the demands of vast audience without size limitation. All-round communications can be realized between teachers and students or among students through internet. The psychological distance between teachers and students is drawn closer, and the opportunities to exchange ideas are increased. The teachers may analyze the inquiry types, number of participants, and frequency of attending the courses to understand the doubts, difficulties, and questions that the students meet during the process of learning, which would be better-directed to help students.

**The online education provides the effective personalized teaching.** The internet may record
and trace completely the personal information, learning process, and phase status of each student. Individual advice can be made according to the information.

**The online education is helpful in teaching administration.** The consultation, enrollment, payment, selection of courses, inquiry, management of registration, schoolwork, and examination can be accomplished by the remote computing systems.

### Problems in MOOC

The presence of MOOC is a challenge for teachers. Students can learn high quality courses without going to classrooms. The value of lectures is weakened and teachers feel a sense of stress. The main problems are revealed in the following aspects:

a. The MOOC courses have high enrollment rates, and high dropout rates as well, which means that students should have autonomous learning capability to finish the course contents on time.

b. There are three barriers in credit recognition. First, it is hard to identify the truthfulness and reliability of the students in a virtual environment. Second, it is hard to ensure the teaching quality and learning effectiveness in some universities. Third, the MOOC courses are focused on the transmission of knowledge itself, lacking humanistic concern with which university campuses provide students. It is just like Timothy White, Director of California State University, who expressed his views: “We need innovation. We need also high quality education. That is what we should always stay alert”.

It is undeniable that online learning would become more and more common in the internet era. Universities should provide students with more flexible and optional courses to meet the demand of e-learning. Teaching should be student-centered and MOOC courses should be introduced in universities. However, universities are not just the places that students accept knowledge mechanically and passively. The campuses are places that students communicate with diverse people. It is just the unique value of universities that provide students with a chance for emotional communication with teachers and classmates to improve the communication skills and influence life values each other [3].

Therefore, the presence of MOOC has redefined the teaching profession [4]. The change of roles may be opportunities for teachers, who can raise their teaching capability and quality through MOOC platform. They can also pay more attention to the personal development of different students and enhance interactions with students.

### The Essence of MOOC

Lecturing is traditionally the main task of teachers. The offline communication between teachers and students is becoming more important along with the popularity of MOOC.

### The Principles of Teaching Designs for MOOCs

- **Aggregation:** Massive information is spread through different websites, and the information is aggregated in one web page, making it easier for students to get the knowledge. The way to dispose the information is quite different from the traditional courses that teachers prepare their lectures beforehand.
- **Combination:** The teaching materials come from diverse sources.
- **Renovation:** The teaching materials should be processed once again to coordinate the aims of diverse learners.
- **Sharing:** Teachers and learners can share different teaching materials and considerations worldwide.

### The Methods for Teaching Designs of MOOCs

Because of large number of learners and considerable student-to-teacher ratio, MOOC courses should be designed to be easy for response and interactions. The following is two basic patterns of the design.
a. The response and interactions are processed through the network of MOOC like peer review or cooperative learning.

b. To apply objective and automated online evaluation systems like quizzes or examinations.

The Value of MOOC

The MOOC has realized exchanges of high-end knowledge. The courses apply to expert training, interdisciplinary communication, and special education. In fact, the online courses are beneficial for students and any type of courses can be spread through internet. Each learner can freely reach teaching sources of prestigious universities. They can start learning at any places through any facilities, which is the value of MOOC.

Different from the apprentice system, it is hard for schooling to achieve personal development of students. Home schooling is now popular in America, and some students in China drop out of schools to receive education from parents or other routes. Personalized education can be now realized through internet, although it is hard to be sure that MOOC is an ideal teaching method in the end.

The Future of MOOC

The best method to understand MOOC is to personally attend a MOOC course. You can never understand how swimmers feel if you stand on the shore. Neither time nor space can prevent you from learning in the network age. It becomes easy for us to learn all over our life, and people who love learning and good learners can better educate themselves through network. Any time is a good time for learning with the help of MOOC.

(1) MOOC will not replace universities or colleges; it is a kind of supplement to the present education system instead.

The mission of education is to educate everyone at first class level. The presence of MOOC made everyone have the opportunity to share the elite education, which broke the situation that the “monopoly resources” met the demand of only privileged persons.

(2) MOOC enabled personalized, lifelong, and self-education.

Analysis of learner's data (such as earning activity, learning habits, learning progress, activities in discussion sections, score distributions, etc.) would help teaching teams and administrators to better make teaching programs and to improve teaching quality.

In summary, the information technology brought changes of teaching mode. Application of MOOC does not mean the replacement of teaching profession. MOOC courses free teachers from repetitive and tedious work to communicate more with students. Technological progress brings teaching innovation that requires higher-grade personality of teachers. As spiritual mentors of students, teachers may help to shape the hearts and promote the mature of human nature of students [5], which would be the main duty and original role of teachers.

References


