

## Analysis of College Teaching Reform and Innovation Strategy under the Background of MOOC

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**Abstract.** In the face of the current global “MOOCs rage”, what kind of strategies should domestic universities take to take advantage of the situation? And to deeply understand the connotation of MOOCs, not only to maintain the efficiency of traditional classroom teaching in Chinese universities and to ensure the integrity of knowledge transfer and systematically development, but also to deepen the innovative training of talents in the new era, which puts higher requirements on the reform and innovation of college education in China.

### Introduction

With the current rapid development of information technology and network technology, the traditional college teaching concepts and teaching models have undergone tremendous changes. Students hope that learning will become more convenient and more selective; teachers hope that teaching will become more vivid and more interactive and feedback. Based on the continuous development and maturity of streaming media WEB2.0 and cloud computing technology, MOOC has also emerged. As a new educational model, MOOC is different from the traditional online education more than ten years ago, which overcomes the shortcomings of traditional one-way propagation of information, introduces the interaction between teachers and students to "teach" and "learn" and increase the modules of homework evaluation and listening feedback make our higher education develop rapidly and comprehensively. In recent years, the popularity and attention of MOOCs has continuously rise in the world, and more and more universities and educational institutions have begun to design, produce and use MOOCs. In the face of this global "MOOCs rage", how should domestic universities face rationally, especially what strategies should be taken to take advantage of the situation. And to profoundly understand the connotation of MOOCs, not only to maintain the efficiency of traditional classroom teaching in Chinese universities and to ensure the integrity of knowledge transfer and systematically development, but also to deepen the innovative training of talents in the new era so that to combine the "rigorous norms" of Chinese universities with the "lively and flexible" of MOOCs.

### The Meaning of the MOOC

MOOC is derived from the English Massive Open Online Course and translated into Chinese: a large-scale open online course, which is called “Mu Class” in Chinese. Professor Li Xiaoming of Peking University defines the Mooc as: a teaching process in which the short video, homework, forum activities, announcement mail, test and other elements are intertwined and the responsibility is taken by lectures and large-scale students are involved with the Internet. It can be said that MOOC is different from the traditional F2F education model. Its curriculum materials are spread on the Internet and open to the public so the audience is quite wide. Anyone can participate in the study of the course and there is no portal restriction. As long as there is a network, people can conduct online interactive learning anytime and anywhere, so that learners can break through the limitations of time and space and learn freely.

## **The Advantages and Defects of MOOC in College Teaching**

In higher education teaching, the MOOC shows the outstanding characteristics of the new combination of “teaching and learning”, and it also becomes the advantage of MOOC in college teaching. First, the class has defined the central position of the learner as the leader. For teachers, the ultimate goal of teaching is to enable students to learn better, that is, “learning” is higher than “teaching.” Through the MOOC, the traditional transformation of “teaching” and “learning” has been realized, the interaction between teachers and students has been strengthened, the learning experience of students has been optimized, the fun of learning has been increased, and the true connotation of “learning” has been realized. Between teachers and students, between students and students, because of the cognition of knowledge and self-understanding, the spark of thinking exchange and collision has arisen. In the interaction with teachers, students re-construct the knowledge system and deepen their knowledge and their understanding has changed from “Want me to learn” to “I want to learn.”

Second, MOOCs make the way of learning no longer limited by time and space. With the rapid development of Internet information technology, learning activities are gradually getting rid of the embarrassment of location and time, showing more personalized and customized learning needs. For learners, learning is no longer just a traditional campus classroom. , but a broader Internet platform. MOOC offers a fragmented learning style that is more adaptive to the information age and gradually evolves into a mainstream learning style.

Third, MOOC has created a learning environment that combines socialization and immersion. The short video of each MOOC is designed according to the memory method of different knowledge points. For example, in order to improve students' attention, classroom work and test, simulation discussion and simulation experiment are usually used. Besides, in addition to the video to explain the knowledge points, teachers also need to use a variety of social tools, such as WeChat, Weibo, QQ, etc. to create a virtual classroom for students, that is, through the use of social media, the interaction and communication between teachers and students, students and students has got strengthen .

Compared with the traditional classroom teaching mode, there are also inherent defects in the MOOC: First, the MOOC reflects the “human-machine dialogue”, lacks the interaction and the collision of thinking between teachers and students, and the exchange and discussion of teachers and peers. The second is the liberalized learning mode of the MOOC, which puts higher requirements on the learner's autonomy and self-discipline, that is, how to solve the learner's interest in learning and the sustainability of the learning process? The third is how to verify the authenticity of the learner's academic level, which is, how to avoid the plagiarism of the learner's homework, how to ensure that the learner's own online study or exam? These objective defects have also become the aspects that must be paid attention to in the teaching reform of colleges and universities in the context of MOOC.

## **The Important Value of MOOC in the Teaching Reform of Colleges and Universities**

### **MOOC Education Can Construct a New Paradigm of Teaching Reform in Colleges and Universities**

The information society and the knowledge economy era have many intrinsic commonalities and represent the direction of human society. The emergence of the MOOC is a great practice of using information technology for knowledge innovation in the context of globalization. The application-oriented undergraduate institutions in China are based on the cultivation of “diversified application-oriented innovative talents with individuality development”. Therefore, the curriculum teaching reform should take this as the goal, and use the MOOC education concept to construct a new teaching paradigm (Figure 1).

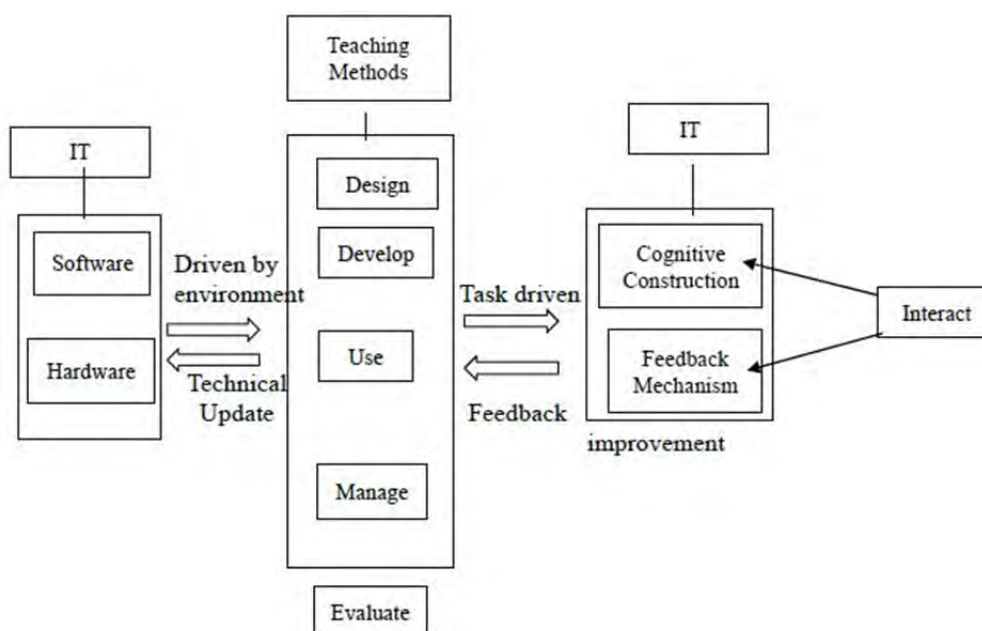


Fig. 1, The new paradigm of college teaching reform under the background of MOOC

For the reform and innovation of college teaching, the optimization of curriculum structure and system is the most important, and MOOC made the curriculum sharing system realized based on Internet information technology, which also provides the establishment of a new paradigm of teaching reform with a solid technical support. Therefore, colleges and universities should combine the new technologies such as Internet, cloud computing and big data as the basis of teaching reform, realize the construction of students' core competence, and transform the existing curriculum teaching system into "Internet MOOC Sharing Platform + College Features MOOC lessons + classroom and practical teaching"., a new three-in-one model of curriculum.

MOOC education brings two major updates to the learner's cognitive reconstruction and feedback mechanism, breaking through the limitations of the time and space of teacher-student exchanges, and achieving teaching interaction and virtuous circle. For example, Harbin Finance University has established an application-oriented undergraduate talent training orientation under the comprehensive framework of "big finance" and economic management. Some of the practical and expedient-oriented outward-oriented professions, such as marketing, can use the teaching method of MOOC. To improve the learning effect of students, for example, the professional class teacher and the MOOC production technology team can show the communication skills and marketing speech into the drama to explain to the students, so that the students can learn while make feedback . The teacher's answers and summery to the questions raised by the students, on the one hand, increase the attractiveness of the course, on the other hand, it is conducive to the improvement of classroom efficiency.

### MOOC Education Can Reshape the Teaching Philosophy of College Teachers

For the teachers of most colleges in China, the emergence and development of MOOCs has triggered a huge earthquake in traditional teaching ideas and teaching models. More and more teachers will face challenges in teaching methods and teaching skills. The MOOC has two obvious characteristics. The first feature is that the foundation of the MOOC is to promote the high-quality teaching resources and knowledge resources. The audience is the most extensive learners, and the resources are mainly based on micro-courses, videos, etc. Multimedia technology is the main, the course content is rich and the form is simple, the learner's acceptance is high; the second feature is that the learning concept of MOOC fully reflects the "learner-centered" principle, through the analysis of big data-level cloud computing teachers can effectively read the students' learning behaviors, curriculum preferences, personality characteristics and other information, which is conducive to the teacher's targeted curriculum.

The MOOC is conducive to the formation of teachers' new teaching philosophy and concepts. This includes both the respect of students and the experience of teaching and learning. That is to say, in the process of teaching, teachers should always take the students' "learning" in the first place. The evaluation criterion of teaching work is the effect and efficiency of student learning. It is always clear that the ultimate goal of teaching is the growth and development of students. Therefore, in the teaching, teachers should go deeper into the MOOC, participate in the construction of the MOOC, and actively change their roles. From the teachers who used only to teach the students to the mentor of students. And guide students to establish a scientific knowledge structure system, and train students to become innovative talents that meet the development needs of the new era.

### **MOOC Education Can Enrich the Teaching Methods of College Teachers**

The MOOC education adapts to the characteristics of adult independence and loose learning, and provides a practical platform for teachers to provide a variety of teaching methods. Under the MOOC education, "mixed teaching" can be realized, online students can learn independently, and offline teachers and students can interact deeply; "all-time learning" means that students can choose the best learning time, improve learning efficiency, and greatly enhance learning Initiative; "multi-link, full-process assessment", avoiding rote memorization, is conducive to students' integration, effective memory and consolidation of knowledge. Teachers should actively break through the shackles of traditional teaching methods, and through the "flip classroom", "mobile classroom" and other non-traditional classroom teaching based on globalization and informationization, the course will be deeply deconstructed according to the teaching object and content. The conditions, such as the choice of teaching methods, the combination of teaching methods and learning methods, actively guide students to carry out inquiry-based learning, and stimulate students' awareness of problems and cooperation, such classroom teaching is rich and vivid.

### **The Coping Strategies of College Course Teaching Reform and Innovation under the Background of MOOC**

Under the background of MOOC, the college curriculum teaching adopts the "analysis-design-exploration-evaluation" interactive fusion to enhance the online and offline mixed teaching mode. This is not only the re-planning of the pre-class, in-class, after-school and so on .but also is a subversion of the two stages of knowledge transfer and knowledge internalization of the traditional teaching mode.

#### **Analysis - preliminary Analysis of the MOOC**

In the initial stage of the production of the MOOC, the teaching team should select the courses that meet the requirements and standards of the MOOC according to the concept of it., And at the same time, according to the different talent training requirements of different professions, the teaching objectives, contents, key points of the selected courses, the outline and overall arrangement should be focused on the analysis ,and combined with the students' learning characteristics, the teaching objectives and teaching content of the course under the MOOC mode should be redesigned. Specifically, this stage can be divided into two main links:

#### ***Academic Analysis***

The teaching team that produces the MOOC must fully analyze and master the basic situation of the students, that is, to analyze the characteristics, concerns, attitudes, cognitive levels and laws, academic level, communication skills, and learning efficiency of the students. If you are familiar with and grasped them, you can fundamentally design a high-quality MOOC course. At the same time, teachers should also know and be familiar with students in the process of teaching, and provide clear guidance for students to learn, so that students can truly understand what to learn, how to learn, and why to learn, and improve the purposiveness of learning activities. Through the analysis of academic conditions, it can strengthen the pertinence and purpose of teaching behavior,

and it is also benefit to the improvement of students' self-control in the learning of MOOC. Students can learn the courses scientifically and independently according to their own hobbies, learning characteristics and attitudes. If students do not have good organizational and communication skills, then the MOOC course is difficult to achieve the desired results.

### ***The Course Content Analysis***

To produce high-quality MOOCs, the teaching team must deeply understand and master the overall system of the courses to be produced. This requires teachers to constantly adjust and improve their teaching content according to the professional curriculum system and knowledge system. Teachers should clearly understand the course content, course points and difficulties, and subdivide the course content that needs to be explained according to the characteristics of the MOOC, so as to form interrelated and independent knowledge points. And different knowledge points applied each other's internal relevance could be integrated into the overall knowledge task group, explaining the content and difficulty level of each knowledge point, and confirming the relationship between individual knowledge points and the overall task group. Based on this, the student's studies are reasonably effective. The proposal, so that students can integrate the curriculum system and knowledge structure, choose the most suitable learning style, which has become the basis of the reform and innovation of college teaching mode.

### **Design - Online Knowledge Tasks and Activity Design**

When designing the knowledge tasks and activities of the MOOC curriculum, it is necessary to fully consider the connotation, form, context, interrelationship and other factors of the mission activities, and ensure that the designed mission activities are easily to grasp and operate. It should reflect the "medical student-oriented" teaching policy. At the same time, it must pay special attention to the scientific planning and arrangement between online MOOC learning and offline traditional classroom learning to maximize the harmonious symbiosis between general learning and collaborative learning. For students, their online activities mainly include: watching and learning the video and related content of the MOOC, interacting with the content of the course in the forum, and completing the homework and testing in the MOOC course.

In the online task learning, the teacher undertakes the online Q&A and guidance work for the learning problems encountered by the students; for the more concentrated questions raised by the students, the students are first solved through communication with the classmates or other learners in the MOOC forum. Questions cannot be solved should be answered by the teacher in the form of text or micro video system, or in the classroom by the teacher to conduct on-the-spot inquiry. In the MOOC course, the interaction of the students in the MOOC Forum is very important. The cognitive collision formed by the learners' interactions in the community will give the learners a new knowledge, understanding and experience.

### **Inquiry-Design and Application of Classroom Activities**

The importance of classroom teaching is not only to answer questions and solve problems for students, but also to guide students to realize internalization of knowledge. It is also a key link for students to recognize, explore and think. Therefore, teachers should combine inquiry and discussion to create a new form class according to teaching tasks. During the teaching process, the teacher helps the students to sort out the key or difficult content in the intensive course, and conduct in-depth exploration of key or substantive issues; to guide students to conduct mutual research and exploration on general or common problems; Teachers should strictly control and record the process of discussion and form a report form for use. In the classroom teaching activities, the teacher's ability to control, the students' self-learning ability and communication and interaction ability are the most important components. Teachers need to have a very clear understanding of the students' learning situation, and at the same time, the students are divided into discussion groups. Students are also guided to discuss related issues and use a variety of forms such as task debates, task reports, and task presentations to demonstrate student learning outcomes.

## **Evaluation - Evaluation of MOOC**

Under the teaching mode of MOOC, there are two effective methods for its evaluation. The first method is procedural evaluation, which can be divided into two aspects: online evaluation and classroom evaluation. The former includes the degree of grasping of the curriculum task learning, participation in forum tasks, self-presentation of individual learning situations, completion of tests and assignments; the latter includes the induction and combining of classroom knowledge points, the completion of classroom tests and assignments, and the interaction between students groups and students in the classroom. , class discussion, etc. The second method is a result evaluation, which is mainly to score students' participation in the course test and to evaluate the course report. For the evaluation of MOOC teaching, the ultimate goal should be to deepen the reform of college teaching.

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