Research on Computer Mix Teaching Mode based on MOOC

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Abstract. The deepening of education reform and the running of Internet technology almost go hand in hand, in contrast, the traditional mode of education and teaching in the era of more new means to use, its shortcomings are being exposed bit by bit. Therefore, emerging teaching models based on MOOC has become a research hotspot. on the basis of a large number of investigation and research, this paper briefly expounds the concept of mooc, and then analyzes in detail the online and offline mixed education mode under the background of mooc, and discusses the design of computer mixed teaching link in depth, and finally draws the conclusion that the computer mixed education mode has a promoting effect on teaching.

Keywords: MOOC, Mix Teaching Mod, Computer

1. Introduction
The application of information technology has blossomed everywhere, which is the symbol of the rapid progress of the times. Higher education teaching is facing the deepening reform, and it is also riding the computer technology. The traditional teaching mode has many valuable experiences and achievements worthy of our inheritance, but we should also dare to embrace new technology and dare to explore and innovate. In particular, the traditional teaching mode of passive listening is dominated by teachers[1]. Because it is difficult to deal with the individual differences of students, the interaction between students and teachers and the communication between students are insufficient. MOOC platform can make students contact with the educational resources all over the world, reflect the subjective standard of students' participation in teaching[2]. Therefore, it is of great practical significance to study the MOOC based on information technology and realize the transformation of teaching mode from teacher centred to student centred.

2. Analysis of the related concepts of MOOC and mixed teaching mode

2.1. The concept and application status of MOOC
MOOC is a kind of curriculum model that connects learners, curriculum resources and teachers in cyberspace by setting a good discussion topic. At present, the research on MOOC in China is on the
rise year by year, as shown in Figure 1 below, the research articles related to MOOC have grown rapidly in recent years. On the other hand, compared with foreign countries, there are still many problems in the study of MOOC in China. On the one hand, although there are more and more related studies, the number is still far lower than foreign countries. On the other hand, the quality of MOOC related research is still unsatisfactory, many researches are seriously homogenized, and there are not too many innovative elements and contents, which limit the further development of MOOC in China.

![Number of articles](image)

**Figure 1.** Research status and trend of MOOC

2.2. *Overview of mixed teaching mode*

Education reform has been advancing in depth, and various new modes of education and teaching have become a hot research object in the field of education[3]. The advantages of the mixed teaching mode have been constantly proved in the teaching practice, which is the advantage of it compared with other teaching modes that stay in the research or theory stage, and the fast-paced era is a challenge to any kind of education mode at the same time. In this mode, teachers should start to supervise and guide teaching, while students should actively participate in learning[4]. Generally speaking, the hybrid teaching mode includes three aspects as shown in Figure 2. Among them, it is the core of the mixed teaching mode to teach specific teaching content to the academic in a suitable way and learning technology.

![Three aspects of mixed teaching mode](image)

**Figure2.** Three aspects of mixed teaching mode
2.3. Theoretical support of mixed teaching mode based on MOOC
The theory of MOOC based hybrid teaching mode is normally includes distributed learning theory, personalized learning theory, learning pyramid theory, constructivism learning theory and hybrid learning theory. The details and descriptions are shown in Table 1 below.

| Theory                          | Descriptions                                                                 | Features                                                                                     |
|---------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Distributed learning theory     | Flexible synchronous or asynchronous learning, any method of learning by multiple means | Training students to study efficiently and with goals                                        |
| Personalized learning theory    | Balance between learning environment and learners’ personality               | Students are in charge of their own learning and individualized learning before class        |
| Learning pyramid theory         | Learn how to present knowledge in the form of video before class            | Emphasis on discussion and cooperation of students’ study groups and interaction between teachers and students |
| Learning theory of constructivism | The acquisition of knowledge needs the interaction with external objects      | Four elements: situation, cooperation, conversation and meaning construction                  |
| Mixed learning theory           | Combine the advantages of network learning and traditional learning         | Combined with the enthusiasm, initiative and creativity of students and the leading role of teachers in inspiring, guiding and monitoring teaching |

3. The design of computer mix teaching link based on MOOC

3.1. Components of mixed teaching
At the level of hybrid teaching, hybrid online teaching and offline teaching, hybrid self paced teaching and collaborative teaching, hybrid structured teaching and unstructured teaching, hybrid specific teaching materials and flexible teaching materials, hybrid work and teaching[5]. Based on the mixture of technology and teaching media, it mainly includes synchronous physical form, synchronous online form, self paced and asynchronous form, etc. From the perspective of teaching and learning, the mixed teaching components include face-to-face traditional classroom teaching and digital teaching in virtual environment. In the practical teaching application, we should determine the mixed components according to the objective factors such as teaching objectives, teaching resources and so on, in order to obtain the optimal benefit of teaching.

3.2. The application of computer hybrid teaching mode based on MOOC
First of all, in the construction of teaching management tools, the learning management tools of MOOC platform analysis indicators are composed of communication tools, efficiency tools and student participation tools. Secondly, at the level of system support tool construction, the system support tool of MOOC platform analysis index consists of curriculum design tool, curriculum management tool and curriculum release tool. Thirdly, the system technology of MOOC platform evaluation index consists of hardware / software, security / performance, compatibility / integration, pricing / licensing. Hardware and software include server, database, browser, service software and mobile service support.
3.3. The teaching process of mixed mode

The teaching link of mixed teaching process is between classroom teaching and online teaching, or combines the advantages of both. It mainly consists of four parts: course introduction, teaching activity organization, teaching support and teaching evaluation, as shown in Table 2.

| Procedures                  | Functions                                                                 |
|-----------------------------|---------------------------------------------------------------------------|
| Curriculum introduction     | Promote teachers and students to form a consensus on the teaching objectives, |
|                             | learning support methods and examination evaluation methods of the course  |
| Active organization         | Provide learners with the ability to test the correctness of what they have learned and cultivate their abilities of exploration and cooperation |
| Learning support            | Overcome difficulties encountered in learning and provide academic or non academic help |
| Teaching evaluation         | Check and evaluate the expected teaching effect                            |

4. Conclusions

The MOOC-based hybrid education model creatively utilizes the computer technology. It also develops strengths and circumvents weaknesses, combines the strengths of the two models of offline teaching and online learning in the classroom, and integrates them. The advantages of MOOC computer hybrid teaching mode are obvious, and the performance in practical application is also remarkable, which combines autonomous learning with writing learning, single interaction and multi-dimensional interaction. This kind of mixed teaching mode can effectively promote teachers' teaching level, students' learning ability and improve information literacy. Such a practice, to a large extent, broaden the students' learning vision, enhance their ability to self-study, but also pay attention to the cultivation of students' practical ability, in line with the direction of future education development.

Acknowledgment

Research on the Reform of Vocational Education Teaching in 2019-2020 of the Teaching Working Committee of the China Vocational and Technical Education Association, Project Number 1910057

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