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The Realistic Dilemma and Path Exploration of the Construction of MOOC in Colleges and Universities

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Abstract: *With the rapid development of the information age, the form of teaching organization has undergone a fundamental change. MOOC is an open and shared learning resource with a very wide audience. This article systematically researches through research methods of literature and survey, and the research found that college MOOC teaching has a series of problems such as the top-level design of the curriculum system and the lack of professional relevance, the single teaching method, and the insufficient design of curriculum modules. The research proposes that the reform of the MOOC teaching model in colleges and universities should strengthen the top-level design and professionalism of MOOC courses; explore diversified MOOC teaching methods; follow the FPFI model to design course modules; effectively use big data and assessment methods to improve student learning efficiency.*

Keywords: *MOOC, curriculum system, teaching method*

1. Introduction

The concept of MOOC started in 2008 and was jointly proposed by Dave Cormier and Gearge Siemens. It is a long-distance online course produced with the development of computer information technology [1]. The MOOC teaching model has been quickly promoted all over the world since it was put forward, and since 2013, it has been widely praised by universities and education circles in China. Although MOOC construction has been recognized by the education department and has been widely implemented in colleges and universities, there are also many doubts in addition to the praise. Therefore, only by rationally understanding the development and application of MOOC, discovering and analyzing the actual problems in MOOC teaching in colleges and universities, especially in ordinary colleges and universities, and putting forward some targeted suggestions, can we give full play to the characteristics and advantages of MOOC. It is conducive to the scientific and efficient development of MOOC teaching model.

2. Realistic problems faced by MOOC teaching construction in ordinary colleges and universities

2.1 The top-level design of the curriculum system and the lack of professional pertinence

The research team found through inquiring relevant literature that, on the one hand, many courses across the country lacked top-level design, which caused the repeated production of different universities, while some courses were blank. For example, "Advanced Mathematics" can search for more than forty courses on the "China University MOOC" website, but "underground engineering construction technology" has only one course, and many courses are still not searchable. On the other hand, even for the same course, between liberal arts and science and between different majors of science and engineering, the teaching purpose of the course is very different. Even if it is a public basic course, there will be differences in the content and focus of the lectures for different students' majors[2]. Therefore, to construct MOOC courses with professional characteristics, it is very important to select the appropriate MOOC courses in a targeted manner. Due to the lack of top-level design of the MOOC course system and the lack of targeted arrangements for the allocation of construction resources, the large investment in the construction of courses with more teachers and a wide audience has led to a large investment in the construction of MOOCs, and the construction of special professional courses

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has been neglected; it has also led to courses the phenomenon of homogeneity is obvious, and the professionalism is poor.

2.2 Single teaching method

At present, some MOOCs still follow the traditional classroom lecture mode, which is equivalent to recording the content of the class and then playing it. This method cannot achieve real-time interaction between teachers and students in classroom teaching. The mature MOOC content of each course is prepared through multiple rigorous "procedures" such as careful design by teachers of a teaching and research group, production of PPT and Prezi and other courseware, tempering of lines, and recording and synthesis [3]. Although the explanations are more rigorous, there are also obvious shortcomings: First, they lose the on-the-spot performance and humor of the on-site class. Students sound the same and get tired easily. The second is that teachers can' t immediately feel the feedback from students on teaching, such as which knowledge point students still frown after listening, and which knowledge point students nod frequently, so that they can take targeted measures in time when teaching. The third is the passive role of students are just "recipients", subjective initiative and enthusiasm to participate in the classroom on the spot are restricted. Fourth, it can also cause the lack of teacher-student relationship and the friendship between students and the lack of authenticity of traditional courses, which greatly reduces the acceptance rate of students' knowledge.

2.3 Insufficient course module design

At present, there are many MOOC courses, but there is a lack of sophisticated high-level MOOCs. Some courses have more than ten courses nationwide, but the teaching design is similar to the usual classroom teaching process. In fact, although MOOC teaching is born out of the classroom, it should give full play to its advantages of informatization in the design of course modules, maximize strengths and avoid weaknesses, and need to concentrate financial and material resources to develop teaching aids, and use simulation technology to improve teaching effects as much as possible. Through research, it is found that practical courses such as "underground engineering construction" and "blasting engineering" are originally the focus of the course [4]. However, due to industry characteristics, it is not convenient to come to the scene at any time, which leads to a single video teaching course that cannot be used to very good teaching effect. It can be seen that high-quality MOOC courses must not be simple classroom recordings, but should be based on in-depth analysis of the course content and achieve high-quality teaching through a variety of methods; diversified teaching modules should be tried, teaching aids, simulation teaching, etc. , to improve students' mastery of the course.

3. Analysis of the reform path of MOOC teaching mode in ordinary colleges and universities

3.1 Strengthen the top-level design and professionalism of MOOC courses

Give full play to the role of the teaching steering committee and industry societies, according to the characteristics of the profession, combined with the needs of learners and professional talent training programs, each discipline selects five schools with a professional rating of A or above to cooperate in the development of the professional network course system and structure, seek truth from facts, choose courses that are suitable for MOOCs, and do not engage in “one size fits all”. At the same time, the school's academic affairs department and college should also participate in the overall organization and inviting well-known scholars in the industry to conduct seminars and guidance, so as to accurately locate and select the required MOOC courses, and strengthen the pertinence and professionalism of the courses. For the selected MOOC courses, it is necessary to concentrate the resources and financial resources of high-quality teachers to make quality online courses suitable for the major. For example, for many construction details, the internal structure of valuable instruments, etc., the teacher's explanation is difficult to fully describe [5]. Only through video or simulation can students be clear at a glance and understand more thoroughly. For this kind of universal and principled courses, colleges and universities can concentrate human, material and financial resources to make quality online courses, so as to be "small but precise", so that the produced courses can really help improve teaching efficiency and teaching level. This can reduce the disorderly competition between schools and the management loopholes of sacrificing quality for the sake of quantity and avoiding huge waste of human resources and social financial resources from the top-level design.

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3.2 Explore diversified MOOC teaching methods

Excellent MOOC courses need to be combined with more effective teaching methods in order to achieve a multiplier effect with half the effort. Sufficient teachers and high-quality students are the outstanding characteristics of full-time undergraduate teaching. In response to this feature, in addition to the traditional model of teacher lectures and students listening, MOOC teaching can also develop micro-classes, flipped classrooms and mixed teaching.

The time for each knowledge point of the "micro-class" is about ten minutes, and the content is small and precise. As a new form of online education resources, it is suitable for mobile learning and fragmented learning. It helps to change the situation of abundant online education resources but low utilization efficiency, and can greatly improve the learning efficiency of students. Full-time undergraduates have a relatively large amount of class hours. The exquisite micro-classes take each knowledge point as a unit, which allows students to have a comprehensive grasp of a knowledge point from basic to application in a short time, which is more attractive to students. For example, explain the derivation of Bernoulli's equation, to the gas binding of the centrifugal pump, the causes of cavitation phenomenon and the methods to avoid this phenomenon, a micro-class of about ten minutes, combined with the gas binding during the operation of the centrifugal pump, the video of cavitation phenomenon enables students to understand Bernoulli equation more thoroughly and understand the practical application of this equation.

Flipped classroom takes teacher and student role exchange as the main teaching feature, and its purpose is to improve students' exploration, enthusiasm and initiative in learning. In the study of college English writing, foreign language for materials major and foreign language for chemistry majors, the teaching effect of flipped classroom has been praised by students [6]. For college students, the study of professional English can be done by self-study before class, which mainly discusses the development of the frontier of science and technology.

In the current era of advanced information technology, blended teaching is a teaching method that is easy to achieve and significantly improves the teaching effect. Teachers before class can use WeChat, QQ, DingTalk and other communication platforms to inform students of the pre-class knowledge that students need to prepare for class, and the small software that students need to operate and prepare for class. During the live broadcast of the class, for the explanation of a certain knowledge point, the teacher can first broadcast some good college students' MOOC resources, and then analyze and summarize the knowledge points to deepen the students' understanding. Throughout the teaching process, teachers can ask students questions at any time to grasp the students' learning situation. This kind of mixed teaching breaks the rigid listening mode and makes the boring classroom diversified.

3.3 Design course modules following the FPFI model

To realize the targeted development of MOOC course module design, the FPFI model of "Basic F + Actual Combat P + Frontier F + Interactive I" is also an effective method. Among them, the basic theory module is based on the basic theoretical knowledge of the subject, supplemented by the knowledge of other interdisciplinary subjects, and effectively integrates the new theories and methods used in practice into the teaching in a timely manner. The actual combat teaching module focuses on the actual combat of the basic theoretical knowledge of the major. Use this teaching module to add real work scenarios, and try to increase case teaching to effectively solve the problem of "severe derailment of teaching and practice". The cutting-edge module should use heuristic teaching and celebrity lectures to allow students to fully understand the most cutting-edge dynamic situation of the subject. The interactive teaching module should make full use of the live broadcast method to increase the opportunities for students and teachers to interact and communicate, so as to truly understand the needs of students and carry out targeted teaching. For example, "instrumental analysis" and other courses that have both theoretical foundation requirements and practical operation requirements can fully reflect the advantages of the FPFI teaching model. Students first understand the basic principles of the instrument through resources such as "China University MOOC" and complete the basic F stage of learning. Secondly, perform the operation of the instrument in the laboratory, further understand the basic principles during the operation, and complete the actual P-phase learning. Third, learn about the latest applications of the instrument by consulting literature, materials, and e-books, and complete the frontier F-stage learning. Finally, discuss and share with teachers and students, and complete the interactive phase I learning. This discussion from basic to cutting-edge applications transforms knowledge from words into operable entities, and then to visible applications.

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3.4 Effective use of big data and assessment methods

Establishing a reasonable evaluation and incentive mechanism is one of the ways to ensure that students are effectively engaged in MOOC learning. Teachers can use big data technology to improve and optimize the current evaluation mechanism. For example, in order to reduce the behavior of "brushing lessons", first of all, we must improve the quality of courseware production to stimulate students' interest in learning, supplemented by face recognition technology to effectively supervise whether they are learning. In the learning process of professional courses, students need to not only understand some knowledge points, but also be able to apply them flexibly. In addition, you can also ask students to fill in the difficult questions at this stage during the course, and then continue to play after completing the filling.

In the assessment of learning effects, the traditional final centralized assessment system can be combined with classroom assessment and question discussion in the MOOC process. The system can perform statistics based on the number of students participating in the discussion and the number of words answered in the discussion, thereby effectively supervising and grasping the learning effect of the students; it can also increase some topic discussions to encourage students to not only master the content of the class, but also need to check some relevant information independently data and conduct a comprehensive analysis. These methods can deepen the understanding of classroom knowledge.

4. Conclusion

MOOC is a product of the rapid development of computers and the Internet, and has advantages such as optimizing resource allocation and expanding audience groups. Promoting and optimizing student learning is the purpose of MOOC teaching. However, the current MOOC courseware production model and the traditional teaching model can't form a good complement, and it is difficult to achieve the best teaching effect. Therefore, the top-level planning and design should be established as soon as possible, through close to professional curriculum construction, diversified teaching methods, optimization of curriculum modules and incentive mechanisms, production of high-quality courses and effective process management, to truly increase the value of the MOOC learning platform for success apply MOOC teaching with high efficiency to the daily teaching of ordinary colleges and universities.

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References

[1] Xin M Y. Research on Innovation and Entrepreneurship Education in Local Colleges and Universities under the Environment of MOOCs [J]. Journal of Qiqihar University (Philosophy and Social Sciences Edition), 2016(07):168-169.
[2] Wen J P. The essence of education is to promote the perfection of people's socialization and individualization [J]. Commodity and Quality, 2011(S1): 150.
[3] Xu W S. The impact and thinking of the "MOOC" model on traditional education [J]. Jiangxi Education, 2015(15): 20-22.
[4] Ding J X. The application of micro-classes, MOOCs and their combined flipped classrooms in education and teaching reform[J]. Information Recording Materials, 2017, 18(12): 166-168.
[4] Blair E, Maharaj C, Primus S. Performance and perception in the flipped classroom [J]. Education & Information Technologies, 2016, 21(6):1465-1482.
[6] Park S E, Howell T H. Implementation of a Flipped Classroom Educational Model in a Predoctoral Dental Course [J]. Journal of dental education, 2015, 79(5):563-570.