Research on the Countermeasures of Open Online Course Construction in the Education Informatization 2.0 Era in China*

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Abstract—The release of China's Education Informatization 2.0 Action Plan marks that China's education informatization has entered the 2.0 era, which has new characteristics and puts forward new requirements.. It is more valuable to construct open online courses as required by the times. This paper first expounds the development of open online courses in China, and then analyzes the problems existing in their construction in China and explores the reasons, and puts forward the construction countermeasures combining with the new characteristics and requirements of education informatization 2.0 era.

Keywords—education informatization 2.0; open online courses; development; problems; countermeasures

I. INTRODUCTION

Influenced by the development of MOOC in the United States, the construction of open online courses in China began in 2013 and has developed at an unprecedented rate. Just when the construction of open online courses in China is booming, China's education has entered the education informatization 2.0 era. The new era presents new characteristics and makes new requirements. Therefore, education and teaching of all types and all levels in China must conform to the requirements of the new era. As a product of education informationization, it is more necessary for open online courses to change with the times. From the existing research literature, there are few studies on the problems or countermeasures in the construction of open online courses in China, much less the construction of open online courses in China based on education informatization 2.0. On the basis of sorting out the problems existing in the construction of open online courses in China, the paper will further discuss the reasons, combine the new characteristics and requirements of the education informatization 2.0 era in China, and propose corresponding countermeasures.

II. CHINA EDUCATION INFORMATIZATION 2.0

At the end of 2017, the term of "education informatization 2.0" accidentally appears in China. On December 16, 2017, Changjiang Education Research Institute, China Education Think Tank and China Education Think Tanks Union jointly hosted the first 50-Person Round Table Forum of Education Think Tank and Education Governance. On the Forum, Du Zhanyuan, Vice Minister of the Ministry of Education of China, said: the Ministry of Education will implement the "Education Informatization 2.0" action. On April 13, 2018, the Ministry of Education of China issued the Education Informatization 2.0 Action Plan, officially putting forward the concept of "education informatization 2.0".

The Education Informatization 2.0 Action Plan points out that by implementing the Plan, we will basically realize the development goal of "three complete coverage, two improvements and one platform" by 2020. That is to say, teaching application covers all teachers, and learning application covers all the school-age students, and construction of digital campus covers all schools, and the application level of informatization and the information literacy of teachers and students are generally improved, and the platform for "Internet + Education" is established, so that we can propel the transformation from education-specific resources to large educational resources, from the improvement of teachers' and students' ability to apply information technology to the comprehensive enhancement of their information literacy, and from integrated application to innovative development, and strive to build a new mode of talent cultivation under the condition of "Internet plus", develop a new mode of education service based on the Internet, and explore a new mode of education governance in the information age". As soon as the plan was released, it caused great concern in the education field in China. It can be said that China's education informatization 2.0 will drive the modernization of education in China and stimulate the reform and innovation of education teaching at all levels. Professor Chen Li, Vice President of Beijing Normal University, said in her interpretation: "the release and implementation of the Education Informatization 2.0 Action Plan indicate that education informatization enters a new stage of development, and related issues deserve our great attention". The new era has given new missions. In the education

informatization 2.0 Era in China, course construction should have correct way to be implemented. Therefore, the builder of open online courses should combine the requirements of the new era, find problems, and actively explore in order to build truly high-quality courses.

III. DEVELOPMENT OF OPEN ONLINE COURSES IN CHINA

Since 2003, online courses in China's colleges and universities have been developed in the forms of high-quality course, high-quality resource sharing course, open course for high-quality video, and open online course. The construction of open online courses in China started in 2013, and its development has the following four characteristics.

A. Better Foundation

There are certain conditions for the rise of open online courses, especially MOOC (a large-scale open online course, transliterated as "Mu Course" in China) in China. As early as 2000, the Department of Higher Education of the Ministry of Education launched the "new century online course construction project" for pilot universities, aiming at providing the necessary online learning resources for modern distance education. In April 2003, the Ministry of Education issued the Notice of the Ministry of Education on Starting the Construction of high-quality Courses in the Project of Teaching Quality and Teaching Reform in Colleges and Universities (JiaoGao[2003]No. 1), and construction of high-quality courses was officially launched. According to statistics, during the seven years from 2003 to 2010, China has successfully built 3,790 national high-quality courses and more than 20,000 provincial-level and university-level high-quality courses. In 2011, the Ministry of Education initiated the "Project for the Construction of National High-quality Open Courses", including high-quality open course and high-quality resource sharing course. By 2013, more than 200 well-known universities had participated in the construction of open courses for high-quality video, and more than 120 courses had been free to the public.

B. Implementation with the Rapid Development of Foreign MOOC

When it comes to open online courses, we have to look back at the "digital tsunami" of 2012. At that time, top universities in the United States successively established online learning platforms and offered free courses. The rise of three major course providers of Coursera, Udacity and edX provide students with more opportunities to conduct systematic learning. The open online courses in the world's top universities are in full swing, and this new educational model has attracted many schools in China. In May 2013, Tsinghua University announced that it had officially joined edX, an American online education platform, and became a member of the first batch of Asian universities of edX. In July of the same year, Fudan University and Shanghai Jiao Tong University respectively signed cooperation agreements with Coursera, the world's largest online course alliance, becoming the first two mainland Chinese universities to join the alliance. The year of 2013 is also known as "the first year of online education" in China. The debate on which is better between the emerging online courses and traditional face-to-face courses is being widely concerned by more educators and students and even parents of students, and also being discussed by them in a beneficial way. Besides, it also attracts the attention of the relevant departments of China. In order to conduct further research, the Ministry of Education approved Tsinghua University to establish an online education research center of the Ministry of Education in December 2013.

C. Rapid Development

Compared with the information technology in the past, China's open online courses have been developed at an unprecedented speed. In 2015, the Ministry of Education released the Opinions on Strengthening the Application and Management of Open Online Courses in Colleges and Universities. It has pointed out that we should draw lessons from international advanced experience, exert the traditional advantages of China's higher education and teaching, and boost the construction of large-scale open online courses in China, so that it can embark on the positive, healthy, innovative and sustainable development path with Chinese characteristics of "university as the subject, government support and social participation". At the beginning of 2016, the release of 2016 Education Informationization Work Points also proposed to strengthen the development and application of high-quality digital education resources of higher education. In 2017, the Ministry of Education of China conducted first national high-quality open online course recognition, and identified 490 courses as national high-quality open online courses, including 468 undergraduate education courses and 22 higher vocational education courses. The open course platform covers 12 well-known course platforms at home and abroad. Among it, 315 courses in iCourse platform (MOOC of Chinese University) are selected, accounting for 64.2%. The declaration of 2018 national high-quality open online courses has just been completed. The identification of national high-quality open online courses promotes the selection and identification of provincial-level and school-level open online courses, thus advancing the construction of open online courses.

D. Good Development Prospects

The Ministry of Education of China has launched the "Double Ten-thousand Plan" for the construction of first-class courses. That is to say, it plans to build 10,000 state-level and provincial-level first-class online and offline high-quality courses by 2020 to propel the development and effective use of high-quality course resources and advance the quality of higher education to reach a new high. Wu Yan, director of Higher Education Department of the Ministry of Education of China, said at the beginning of 2018: the Ministry of Education will release the world's first online education course standard that deeply integrates information technology and education and teaching, provide a Chinese program for the development of the world's MOOC standards, seize the commanding point, and take the lead and hold the power of speech in the next round of higher education reform and development. It can be said that the strong boost from the government will promote better development of China's open online courses in the future.

IV. PROBLEMS AND CAUSES IN THE CONSTRUCTION OF OPEN ONLINE COURSES IN CHINA

From the preceding part, we can see that the construction of open online courses in China has achieved certain achievements, but there are still some problems. The author believes that there are three most prominent problems: The first is the small overall number. Although China has established 3,790 national high-quality courses, 2,927 national high-quality resource-sharing courses, 988 national open courses for high-quality video and 490 national high-quality open online courses (first approval in 2017), from the number of Chinese colleges and universities, as of May 31, 2017, the number of general institutes of higher education in China are 2,631 (including 265 independent colleges). Therefore, the number of national high-level high-quality online courses established by China is relatively small. The second is the unbalanced structure. There is an imbalance in the existing regional layout structure (in terms of the number of approved high-quality open online courses, the number of colleges and universities in East China, North China, and Central China is large, and the number of colleges and universities in other regions is relatively less), and also in the layout structure of universities (in the 490 national high-quality open online courses approved in 2017, the number of selected courses of Tsinghua University, Peking University, Wuhan University, Sichuan University, Harbin Institute of Technology and other high-level universities is total 344). In addition, there are some imbalances in disciplines, and the number of approved courses in engineering, science, and medical is large, while the number of approved courses in history, philosophy, and ideological and political courses is small. The third is the uneven course quality and low overall quality. Some courses are selected by more than 1 million students, such as College Spoken English set up by National University of Defense Technology on the MOOC platform of Chinese universities, but the number of some courses selected by students on the platform is less than 1,000. The course quality is the foundation and key to improving the quality of personnel training. Although the quality of open online courses in China is improved constantly, compared with the online courses of world famous schools, there are still significant gaps in content design, resource development, activity implementation, and learning support, therefore, the overall quality of the courses is not high. There are four main reasons for these existing problems.

A. Low Participation Willingness of Teachers

Teachers are the key factors in the curriculum construction and their participation willingness affects the quantity and quality of curriculum construction. In the 21st century, there are still some teachers in China who are used to teaching students with a textbook, a teaching plan, and a chalk. Class after class and year after year, they have already memorized the same content and also kept the teaching plan and course outline in their heart after several years. Even though most of the teachers have already used PPT technology to teach students, some teachers will still read the content in the PPT provided by publishing house. These people will not take the initiative to learn new educational concepts, methods and techniques, let alone having a strong willingness to participate in the curriculum and teaching reform, and they will not participate in the construction of open online courses in line with the trend of the times.

B. Traditional Curriculum Design Concept

Students are the main body of teaching, and the curriculum design should focus on student. However, most open online courses, especially those offered by undergraduate colleges, are designed with a discipline as the center. Although this method can effectively help students to clarify the logical structure of the subject and understand the unique exploring way for the subject, it has not fully considered students' learning interest and existing experience and knowledge base, which is not conducive to cultivating students' practical ability and comprehensive quality. It still has an obvious gap from these advance curriculum design concepts that centers on students and focuses on student's capability development.

C. Unbalanced Investment in Education

This is the main reason for the structural imbalance in the construction of open online courses in China. For example, Tsinghua University, Peking University, Wuhan University, Sichuan University and other universities have received hundreds of millions of funds from the government through the "project 211" and "project 985" platform. These universities can afford to improve their hardware and software conditions, including the teaching staff. In a manner of speaking, these top universities in China have obtained sufficient funds so that they have a high-quality teaching team, a large amount of teaching resources, and advanced technical equipment, which provides a strong guarantee for the construction of open online courses. Universities that have not received sufficient funds can be described as "making bricks without straw".

D. Lack of Effective Incentive Mechanism

It has long been a common phenomenon that university teachers in China attach importance to scientific research rather than teaching. Due to the lack of effective incentive mechanism, teachers are not interested in teaching reform or curriculum construction. It can be seen from two aspects. First, a scientific research part accounts for a large proportion in the existing performance programs in most universities. Second, although the evaluation of professional titles formulated by provinces and municipalities has requirements in teaching, the requirements are not high, while the conditions for scientific research are often very high.

V. COUNTERMEASURES FOR THE CONSTRUCTION OF OPEN ONLINE COURSES IN THE EDUCATION INFORMATIONIZATION 2.0 ERA

In view of the problems and reasons in the construction of open online courses in China sorted out above and combined with the new characteristics and requirements of the education informatization 2.0 era, the author believes that universities and teachers in China should perform their own duties.

A. Duties of Universities

First, we must develop effective incentive measures. Teachers' willingness to participate in the construction of

online open courses is not strong, and they attach importance to scientific research rather than teaching, and even are not interested in teaching, which is mainly due to the overemphasis on scientific research results in the universities' existing performance programs.

Second, universities should raise funds for construction through multiple channels. Fund investment is the guarantee for the construction of high-quality courses. In view of the unbalanced education fund investment, universities should find ways to actively raise funds. First, universities should make a scientific planning, and allocate special construction funds from its annual budget. Second, universities should give full play to the functions of university-enterprise cooperation platform, make use of the advantages of enterprises in equipment and practice scenarios, and adopt the method of co-construction and sharing. Third, universities should strive for financial support from governments at all levels and of all types. Fourth, universities should make use of the alumni platform to solicit donations from alumni to support the course construction.

Third, universities should strengthen the training and construction of teachers. Open online courses are taught by teachers with high academic attainments and rich teaching experience. In order to advance the construction of open online courses, universities should build a team of teachers with reasonable structure, stable personnel, high teaching level and good teaching effect through the training teachers.

B. Duties of Teachers

Teachers also have three tasks.

The first is to respond to the call and comprehensively improve their information literacy. The Education Informatization 2.0 Action Plan issued by the Ministry of Education clearly indicates that "we should transform from enhancing the ability of teachers and students to apply information technology to improving their information literacy in an all-round way...". Therefore, each teacher should check his information literacy based on this requirement and take actions to improve it.

The second is to reinforce learning and effectively improve the ability to build open online courses. Open online courses are different from traditional courses, and even the previous high-quality courses, high-quality resource sharing courses, and open classes for high-quality video. Therefore, to build high-level and high-quality open online courses, teachers who participate in the course construction must systematically learn course construction concept, course design scheme, application technology for open courses and other contents.

The third is to live in the present and actively participate in the construction of open online courses. Course construction is not a fabrication. Teachers must strengthen the demand analysis, attach importance to student analysis, accurately evaluate the teaching, thoroughly understand the course standards, choose the right teaching content, lay emphasis on the teaching form, and skillfully arrange the learning content, so as to build a high-standard and high-quality open online courses.

VI. CONCLUSION

Language and culture are closely related, a language may reflect the rich and colorful cultural forms of the nation. Though we have realized that the cultural differences are existing and objective, yet any of a nation's culture is vast and all-inclusive, therefore, during the college English teaching, teachers should integrate the culture to the teaching in addition to necessary language knowledge, helping students cultivate interests in learning the language, making them capable of English listening, speaking, reading, writing, translation and becoming compound talents meeting the needs of the time.

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