

The Exploration of Hybrid Teaching Mode Based on Fanya SPOC Platform

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Abstract—The mode “Internet and Education” is a reflection of the profound integration of the Internet and education. Since 2012, the first MOOC year, it has entered a pluralistic stage and has evolved into a variety of online learning forms. The online education in China has witnessed a rapid development. In order to take advantages of MOOC concept and integrate it with the traditional classroom teaching, this paper has discussed the shortcoming of the traditional teaching mode. Based on the comparison of MOOC and SPOC, it has explored the hybrid teaching mode based on Fanya online teaching platform that has been introduced by our university, and the four core processes of this model are described in detail.

Keywords—MOOC; online teaching platform; Fanya SPOC platform; hybrid teaching

I. INTRODUCTION

The education in our country has a long history and can be found in the literature dating back to the Yao and Shun periods. For thousands of years, under the forms of “Preface”, “Guoxue”, “Taixue” and “Academies of Classical Learning”, a large number of talents have been cultivated for the successive dynasties under the mode of “disciples taught by professor”, which promoted the academic development. However, with the passage of time, education in our country, especially in universities, has been criticized. Due to the backward traditional teaching methods, it is difficult to train qualified and talented people. The majority of educators also constantly started to explore ways and means of teaching reform [1].

With the development of computer and information technology, informatization of education has become a powerful measure and main way to promote the development of education, improve the teaching conditions and improve the quality of education. It is also the focus for the public, especially the proposition and practice of the concept of “MOOC” has greatly changed and impacted the traditional teaching mode

II. THE DISADVANTAGES OF TRADITIONAL TEACHING MODE

A. In the Spoon-feeding Education, Students Are Passive to Learn

We are all familiar with the mode that teachers prepare for the class for 2 hours, and then teach in the classroom through the blackboard or multimedia, while students take notes when

listening to the class. After class, a small number of students have questions to ask, but most of them get out of class immediately. Pattern like this usually continues until the end of the term. Students spend few days before the exam to do raid review, after the exam threw the book away and forget all the knowledge in couple of days. This is the traditional spoon-feeding education teaching mode. In this way, the students lack of initiative and enthusiasm to learn, and they are completely passive to accept the content taught by teachers, the class is considered to be the task that must be completed. For the reason that they have to learn the contents of this section, the relation with other knowledge, and how to expand, they never think about it. This is the main reason that leads to students’ aversion to class.

B. Classroom Education Is Limited by Time and Space

Under the traditional teaching mode, both teachers and students should be concentrated in certain places, such as classrooms and laboratories. Teaching and learning actions of the day are completed in the classroom, then if there is no question, teachers will leave the classroom, and students will also leave because of other lectures. Once leaving the classroom the problem arises. Students may not completely digest what have been taught in the class, but teachers are not there. The only way is to ask in next class, which will influence the effectiveness. Some students may not be able to arrive in the classroom to participate in the study due to special reasons, which results in the students missing part of the knowledge. If the content of the part is closely linked with the follow-up content of the course, it will affect the subsequent learning and even the learning of this subject. In addition, the traditional teaching mode is also subject to time constraints. Teachers are teaching in a specific period of time, once the students are absent, or cannot understand the contents in class; they can only rely on self-study. Thus, traditional teaching mode is subject to time and space, which will affect teaching effectiveness. [2]

C. Lack of Effective Feedback and Learning Status Checking

Under the traditional teaching mode, teachers will arrange the homework to let the students consolidate their knowledge and test the mastery of knowledge after teaching some chapters of knowledge. However, there are two problems in the form of assigning homework. First, students cannot know whether they have done correctly, they have to wait until the teachers finish checking it. Students are in the larger number,

thus homework cannot be fully checked. In this way, students are unable to know whether they are done correctly or not. Second, students cannot get help for successfully completing the homework or they cannot get immediate guidance. Thus, for lacking of effective feedback and learning status checking, homework becomes kind of meaningless.

D. It Cannot Effectively Use Fragmented Learning Method to Improve Learning Interest

In the traditional teaching mode, the main method of teaching is a two-hour intensive study pattern. This method is effective for teaching complicated problems. However, the combination of fragmented learning methods, network development and extracurricular activities should be considered. Increased extracurricular activities produce more fragmented time; at the same time, prolonged learning is also difficult to ensure the concentration of students' attention. [3] The time of fragmented learning is easier to control according to the students' own situation, which can maximize students' flexibility to master the learning time; students can focus on learning more helpful or inspirational content, which is more targeted. The learning time of single fragmented content is short, fatigue is not easy to produce, the learning interest of students is not diminished, and the absorption and conversion rate of knowledge in learning outcomes will be improved, resulting in a multiplier effect of learning.

However, this teaching mode focuses on the gradual and orderly progress of teaching activities, which helps students to master the systematic, solid and conscientious nature of knowledge. It is also conducive to the exchange of feelings between teachers and students, the cultivation of students' thinking skills, and teachers' teaching innovation, and it is still a classic teaching mode.

III. COMPARISON OF MOOC AND SPOC

The main part of education informationization is the informationization of course teaching. However, online teaching platform plays a very important and fundamental role in teaching informationization. It has also been widely used in our country in recent years. E-learning platform refers to a computer network system that has a series of functions of organizing, tracking, evaluating, sending, presenting, managing learning content and learning activities and promoting interaction among learners. It integrates various tools required for online teaching and application subsystem, is an important technical support for smooth network teaching activities. [5] Nowadays, many kinds of online teaching platform software have been successfully developed in both China and abroad, such as Sakai, Blackboard in abroad, "Tsinghua Education Online" and "Fanya Teaching Platform" independently developed in China. All the online teaching software is providing relatively complete network teaching support environment. From full support of the teaching process, to the teaching management, and then the network teaching resources and management system integration, main subsystem needed by online teaching has been integrated.

Small-scale private online course (SPOC) platform intelligent learning behavior management, targeted teaching resources and accurate big data analysis can ensure the smooth development of hybrid teaching. In essence, SPOC and MOOC belong to the same category, and are similar in teaching design and teaching philosophy. However, SPOC pays more attention to college-ontology. As MIT professor Arnad Agarwal, president of edX, said, SPOC is a branch of MOOC that can be interpreted as "SPOC = Classroom + MOOC." [6] MOOC's "large-scale" attributes highlight its advantages such as high efficiency and low cost. However, MOOC still lacks face-to-face communication of students and teachers and cannot allow learners to experience the complete learning process, and SPOC can solve such problems well. "Table I"

TABLE I. COMPARISON OF SPOC AND MOOC

Item	MOOC	SPOC
Free to open	Yes	Yes
Limitation in number	No/ thousands to hundreds of thousands	Yes/tens to less than a hundred thousand
Entry requirement	No	Yes/ Students of this school
Way to use	Online study	Review Class / Mixed learning / Online study
Feature	United knowledge/Rich media resources	School-based resources/Small-scale Management/School-based MOOC

IV. NETWORK TEACHING PLATFORM USED BY OUR SCHOOL

Under the background of information technology, many elements of traditional teaching have undergone tremendous changes. The role of teachers have changed from leading to guiding, teaching materials are changing from textbooks to life, teaching methods have been changed from lecture to independent study, classrooms are becoming open to the outside, the role of students have been changed from receiver to investigator, the learning materials are changed from counseling books into online libraries, the learning method is changed from follow-up to active learning, and the learning domain is integrated from a single subject to an interdisciplinary discipline. Education has become inseparable from the Internet. Information technology has constructed an innovation-based education environment that integrates individualized learning and autonomous learning under cloud data. Classroom teaching should advance with the times. Exploring the new mode of classroom education of "Education + Internet" will surely be an important direction for our research.

Xi'an FanYi University, as a private undergraduate college, like most domestic institutions, should pay attention to the practicality and rigor of teaching and certainly face the problem of the option of platform. Since 2014, the school has tried out or introduced the national excellent course shared service information platform, the excellent tree of knowledge, the Blackboard network teaching platform, etc. However, the visit volume of the teaching platform is not high. The main problems are: teachers and students are not familiar with these platforms. A large number of resources in the platform cannot

be classified in time. Teaching mode is single, which cannot well stimulate students' interest; there is no enough effective analysis and utilization of big data stored in the platform, etc. All sorts of problems run counter to the original intention of introduction of platform. After recognizing the seriousness of the problem, the Academic Affairs Office and Information Management Center initiated the rectification in time. In 2015, introduced Superstar's Fanya online teaching platform and started implementing the hybrid teaching mode.

A. Hybrid Teaching Design Based on Fanya SPOC Platform

Superstar Pan Ya online teaching platform is a new generation of online teaching platform based on MOOC concept launched by Beijing Superstar Group. It is a localized online teaching platform and also a small-scale private online course (SPOC) platform that can integrate platforms, resources and services. "School-based" micro-curriculum resources can be built on this platform, and hybrid teaching mode is able to be designed based on the platform.

1) Core functions of Fanya SPOC platform: Fanya SPOC platform has strong advantages in curriculum construction, teaching organization, learning behavior management and teaching evaluation analysis. Specifically, the Fanya platform has a variety of curriculum design templates and course content editing features; in particular, it can control the video playback time points. What's more, settings to prevent

students from playing drag and drop have been inserted. Students can insert images, subtitles, test questions and PPT into the video node; in the teaching organization, learning behavior management, there are modes like "granting, timing granting, checkout mode granting"; it also has the functions like video playback duration, homework submission, statistics of review.

2) Hybrid teaching points and theoretical basis: He Kekang believes that hybrid learning is a form of learning that combines the advantages of both traditional learning and e-learning, and makes breakthrough of their limitations. It includes a mix of behavioral, constructivist, cognitive and other teaching theories, and the mix of teachers' guiding and students' engagement, which is an extension of the original learning environment that fully combines the strengths of traditional instructional and digital learning. [7] The construction of hybrid environment for both learning and teaching will directly constrain the development of hybrid learning. Therefore, hybrid learning environment is the basis and guarantee for implementing hybrid learning.

3) Fanya SPOC hybrid teaching mode: Hybrid learning is a kind of effective learning through the combination of online and offline advantages, instead of a superposition of mechanical learning method. Hybrid teaching mode based on Fanya SPOC platform, see "Fig. 1".

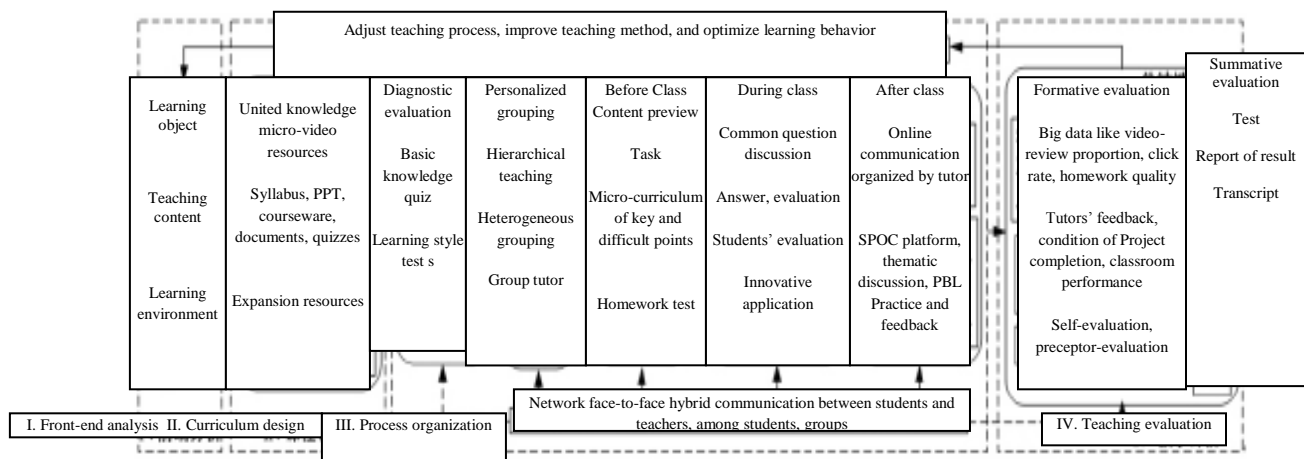


Fig. 1. Hybrid teaching mode based on Fanya SPOC platform.

(1) Front-end analysis of hybrid learning involves the analysis of three elements of learning object, teaching content and learning environment. Front-end analysis is the prerequisite for curriculum design, and only by fully grasping the key points, can targeted, personalized teaching resources be designed. Learning objects are mainly the grade, professional and age information of the students. Teaching contents include teaching objectives, key and difficult points, and the syllabus. Learning environment includes the classroom teaching environment and the SPOC platform.

(2) Curriculum design mainly refers to micro-video recording of knowledge units, and uploading the relevant resources to the SPOC platform for on-line editing and

integration, designing into a micro-curriculum in logical structure. For curriculum design, we also need to prepare syllabus, PPT, courseware, related literature and test questions, as well as e-books and other extended resources. When designing teaching resources, it should not only be highly related to the knowledge of teaching, but also should have rich content and be orderly arranged. Otherwise, it will not promote study, but interfere with students' learning and even enhance their burden.

(3) The process organization of hybrid learning includes diagnostic evaluation, personalized classification and flip class. Diagnostic evaluation is mainly to test the original knowledge of students' ability, grouping, and push tasks by group, do

hierarchical teaching. Before the class, students learn the content through the micro-video on the SPOC platform to complete the first test. During the class, teachers and students discuss common problems and make homework reviews and difficult answers. After class, conduct offline discussion and study reflection, carry out thematic discussion, PBL (problem-oriented learning) project practice through SPOC platform.

(4) Formative evaluation and summative evaluation. Formative evaluation mainly refers to the management of each student's learning behavior such as online time, clicks, exchanging comments through Fanya SPOC platform. With the "cloud computing" statistical software, teachers are able to obtain accurate students' related data rapidly. For example, the proportion of nearly half of students to watch a certain video was 240%. That is to say, nearly half of students watched this video for 2.4 times. This shows that most students consider this knowledge difficult. Based on this data, teachers can focus on this knowledge point in the classroom so that students can better grasp it. In a word, teachers can know the dynamic of students' learning through the statistical data of the SPOC platform so as to better improve the teaching methods and supervise the students' learning behavior. Summative evaluation is carried out in the form of result report and semester exams. Fanya SPOC platform has a wide range of summary evaluation methods, such as homework, video embedded testing, online testing. Setting answers for given template design test questions; the non-subjective question system will automatically score. Score of subjective question will be automatically uploaded to relative part. SPOC platform will automatically calculate the total score of the course and eventually generate a transcript. Finally, teachers can quantify the student according to the weight ratio of formative evaluation and summative evaluation. "Table II"

TABLE II. HYBRID TEACHING MODE BASED ON FANYA SPOC PLATFORM

Main Part	Main Content	Specific Content
Front-end analysis	Learning objective	Student's grade, major and age information
	Teaching content	Teaching objectives, key and difficult, syllabus
	Learning environment	classroom teaching environment and SPOC platform,etc.
Curriculum design	Micro-video	knowledge unit Micro-video recording
	Teaching material	syllabus, PPT, courseware, related literature and test questions
	Expand resource	e-books, virtual simulation experiments, movie recordings
Process organization	Diagnostic evaluation	Testing and grouping learners knowledge base
	Personalized category	Select group tutor, hierarchical teaching, group push task
	Flip classroom	"Pre-class preview + intensive flip", "lesson preview + flip during class"
Teaching evaluation	Formative evaluation	With the "cloud computing" statistical software, teachers are able to obtain accurate students' related data rapidly
	Summative evaluation	In forms of semester test and result report

V. CONCLUSION

In short, the use of multimedia tools in teaching are becoming extensive, the accumulation of digital resources is also impressive, which have played a significant role in promoting the quality of teaching. But the key to improving the quality of teaching is still to stimulate students' interest and learning enthusiasm and to improve teaching content and teaching mode. MOOC aims to promote fair education. The goal of SPOC is to realize the organic integration of MOOC and traditional classroom teaching in campus, and to create a three-dimensional teaching environment of "teacher-guided and student-oriented". This paper tries to integrate the traditional classroom teaching with Fanya SPOC network teaching platform, and makes a "school-based" reform of the teaching contents, teaching forms and technical realization, and explores the unique hybrid teaching mode based on the Fanya network teaching platform.

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