

Exploring Teaching Reforms and Practical Aspects of Online Courses at Newly-Built Undergraduate Colleges

-A Case Study of Zhejiang Shuren University

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Abstract—The student-centered online teaching model combines traditional and online teaching, to create a new teaching model that leverages the mentoring and guiding functions of the teacher, while giving full play to the cognitive functions of the student; hence, reforms in newly-built undergraduate colleges are of special significance. Zhejiang Shuren University made a fairly successful attempt in online course teaching, however, there are still several issues, and it is necessary to find appropriate solutions to gradually resolve the problems.

Keywords—online environment; teaching model; exploring

I. INTRODUCTION

Since the dawn of the Internet era, leveraging its features of resource sharing, virtual and interactivity, the Internet has greatly expanded boundaries of space and time for education, and also changed the relationship between teaching and learning. Developed countries are trying to combine traditional teaching with online teaching, and are actively exploring a new teaching model under the online environment. At present, it has reached the MOOC (Massive Open Online Courses) stage [1]. For example, the United States began to build MOOC from 2012, which led to the emergence of platforms like Coursera and EDX that are attracting millions of students for online learning each year. Japan is implementing an online third education revolution, and in 2013 it also launched JMOOC [2]. With the growing use of MOOC platforms in Chinese universities, by 2016, MOOC platform in China had more than 10 million users. Many famous universities such as Tsinghua University and Shanghai Jiaotong University are actively building their own MOOC platforms [3]. However, due to poor teacher resources and big variance in student levels at newly-built undergraduate colleges, it is important to study how this is being implemented. This paper takes Zhejiang Shuren University as a case study, to evaluate teaching reforms and

explore the basic model and approach of online course teaching in newly-built colleges.

II. BASIC ONLINE COURSE TEACHING MODEL IN NEWLY-BUILT UNDERGRADUATE COLLEGES

With the rapid development of Internet technology, traditional industries are undergoing reforms on a daily basis, and so is the case with the education industry. Therefore, it is imperative to apply Internet thinking in upgrading the traditional education model. Newly-built undergraduate colleges are a new force in China's higher education, and are conducting relevant exploration of this approach. In this respect, as a typical representative of the newly-built undergraduate colleges, Zhejiang Shuren University has made a fairly successful attempt and made some progress.

A. High enthusiasm among students for online course learning

The online course teaching methods at Zhejiang Shuren University are divided into two categories – "Primary classroom teaching + supplementary online teaching" for compulsory courses such as ideological and political courses, the other is "Primary online teaching + supplementary face-to-face classroom teaching" for Erya network courses and online courses. Based on course electives, the overall student enrollment in elective courses reached 18,000 person-times / semester. The author randomly selected six "Erya" network courses in one semester and analyzed the data (See Table 1). The highest rate for videos completed was 92.30%, while the minimum was 86.20%, with an average of 88.87%; the maximum course score was 82.83 points, the lowest was 74.55 points, with an average score of 77.44 points. It can be seen that the students learning online were relatively enthusiastic, and the vast majority of students completed the online learning courses as required.

TABLE I ONLINE LEARNING STATUS FOR SIX "ERYA" COURSES IN ONE SEMESTER

No.	Course Name	Average Number of Videos Completed	Percentage of Videos Completed	Average Score
1	Entrepreneurship and Innovation Leadership	48/54	88.88%	77.36
2	Entrepreneurship Management	24/26	92.30%	78.80
3	Entrepreneurship Foundation	69/79	87.34%	74.55
4	The Universe from Einstein to Hawking	50/58	86.20%	74.58
5	Today's Japan	40/45	88.88%	76.57
6	Art of Talking and Etiquette	52/58	89.65%	82.83
Total			88.87%	77.44

From the perspective of a single course, taking Entrepreneurship Foundation as an example, the number of visits by students in the 2016/17 (1) semester reached 10,801 times, participation in discussions was 118 times, and the longest online learning duration was 2,408 minutes, with an average of 885 minutes, with 41.56% of students learning using the mobile phone [4]. In general, online learning has broken the traditional closed teaching model. The teachers and students go out of the classroom, and learn using new videos, images, discussions and through other means, which has been highly beneficial in expanding the students' vision.

B. Initial shape of online course teaching model

Through the Internet, students can give full play to their initiative. The teaching content is more colorful, and teaching methods are more flexible and diverse. Psychology tells us that only 15% of things can be understood by hearing, and only 20% by seeing, however 65% can be understood through a combination of hearing and seeing [5]. Therefore, online teaching based on rich multimedia resources, should be fairly successful in theory. In practice, a teaching model that takes the students as the main component and the online teaching platform as the center has basically taken shape.

The online course teaching model is shown in Figure 1, which can be described as:

(1) The students are the protagonist, and the teacher is in the supporting role. The students are the active constructor and the user of the knowledge, the teacher is only the instructor and organizer of the teaching process. The students in a learning environment, for example a scenario, case, collaboration, conversation, etc. created by the teacher, give full play to their own initiative and enthusiasm via the Internet. They reconstruct the meaning of the current knowledge and use the knowledge they have gained to solve practical problems.

(2) The online platform is the learning center, and is the cognitive tool for students to actively learn, collaboratively explore, constructively interpret and practically solve problems. The platform includes multimedia teaching materials, case resource system, assignment and test system, and a teacher and student interaction system.

(3) In the new teaching model, classroom teaching becomes a supplement. Knowledge learning is online, whereas the classroom is mainly to clarify doubts, which is an organic combination of the traditional classroom and online teaching, as well as of physical textbooks and online resources.

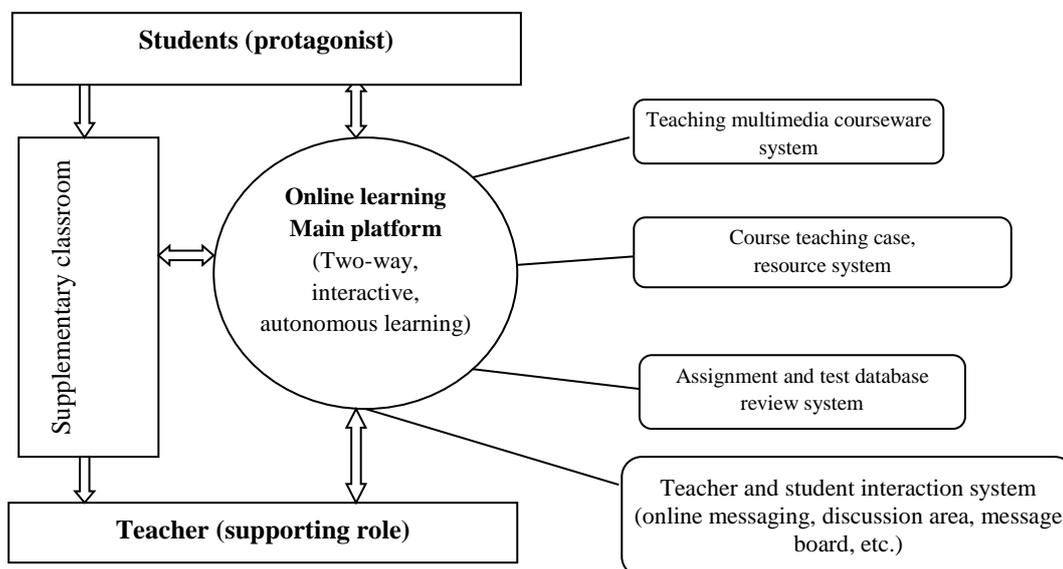


Fig. 1. Online course teaching model

With healthy interaction between teachers and students, the students can complete the learning task, accumulate knowledge, strengthen capacity and improve their personal capabilities. In numerous online teaching activity forms, the students experience a clash of tradition and modern, and are exposed to an environment where they face information, solve problems and cooperate, which is highly beneficial in cultivating self-learning and innovation spirit in college students.

III. MAIN EXPLORATION AND SHORTCOMINGS IN ONLINE TEACHING

In order to promote online teaching, Zhejiang Shuren University actively constructed teaching programs with online course resources as the focal point, improved the online teaching platforms, and expanded the course resources by reforming the teaching methodology in the Internet environment, to stimulate students' interest in learning. Some initial exploration has been conducted and certain progress has been achieved in the following areas.

A. Main exploration

1) Pay attention to online teaching, and continue to improve hardware infrastructure

In 2000, Zhejiang Shuren University launched a comprehensive network construction, and by 2008 it had fully realized classroom multimedia transformation. All classrooms and student apartments got direct access to the Internet with full WiFi coverage. The university built a course center, and uploaded more than 100 courses on it, and initially explored online teaching. As of the end of 2016, it had setup 95 fiber networks, covering a total length of 46 km, and built a special education science network, with 621,633 electronic books, and dozens of digital resources including CNKI and EBSCO foreign language database. The computer experiment center has 9 computer teaching laboratories, 14 language teaching laboratories, innovative laboratories and compilation studios, and more than 1,000 high and mid-range computers. The good

hardware infrastructure ensures the majority of teachers and students can enjoy high-quality online services. In 2016, the MOOC platform was completed, and there are currently 141 courses running on this platform.

2) Strengthen connotative development, and define online course platform

By establishing 61 "Boya plan" and excellent course development projects, Zhejiang Shuren University independently developed 16 school-level boutique knowledge courses, and actively promoted online resources development for general knowledge courses. It constructed several general knowledge course teaching websites with rich multimedia content by mainly integrating collective knowledge and lesson preparation, extensively using multimedia technology, simplifying complex things and transforming abstract concepts into visual and specific objects (such as images, sound and dynamic objects). It also introduced 28 online open courses, purchased 15 Erya online courses, and completed the initial setup of the online teaching platform. At this point, the "self-built + introduced" online teaching platform took its initial shape.

3) Rely on the course platform and achieve independent interactive learning

Interactive teaching is a teaching method wherein a multilaterally interactive teaching environment is created, to enable collision of different views and ideas in the process of equal exchange. It also stimulates and provides motivation to students take the initiative and to explore, thereby improving the effectiveness of the teaching. Online course teachers attach tremendous importance to exchanges and communication with students in the teaching activities. In addition to exchanges with students in the discussion and Q & A areas on the course platform, the teachers also communicate with the students via WeChat groups, WeChat Official Accounts, QQ groups, email, etc. Some teachers even setup personal course websites, personal blogs and other forms of media to support their

teaching. Through this one-to-one, one-to-many, many-to-one and many-to-many, as well as teacher-to-student and student-to-student multi-directional interaction, this method achieves the education purpose of "teaching and learning together, and teachers and students learning from each other".

4) Expand teaching resources and change the teaching model

Through online course teaching, Zhejiang Shuren University made a number of changes in the teaching model: with respect to space, it extended teaching outside the classroom; with respect to time, it broke through the restriction of classroom hours and fulfilled the students' needs of learning any time; with respect to content, it broke the restriction of textbook content and integrated videos, pictures, text materials in to one, with more colorful content. This approach ensured students are no longer passive receivers of knowledge, but are active learners. They built their knowledge by independently logging in to the system, and adhered to active learning, self-thinking and active cooperation, thereby improving their ability to use knowledge to solve problems. The university also expanded course resources. By establishing online courses, the number of students in each course has reached 400 (theoretically, there is no upper limit in the number), and just 15 Erya network courses were enrolled 6,000 person-times. Compared to an average 50 students / class, it greatly expanded resources for teachers, as well as provided greater choice for students.

B. Problems in online course teaching

Zhejiang Shuren University has made tremendous achievements in online course teaching, however, the fact is that online teaching is still in its infancy. There are still many difficulties, such as poor teacher resources and inadequate learning ability of students. Specific issues include:

1) Room for improvement in teaching platform due to lack of mature theory guidance

Effective teaching model reform is inseparable from guidance from mature educational philosophy. The teaching model based on Herbart's "five-step teaching method" is still very valuable, even though the method has undergone hundreds of years of development. The advent of the era of network information, greatly changed the way of human survival and learning methods; however, online teaching is still relatively new, and there is no mature theoretical summary on its research [6]. At present, the theory of online learning mainly includes behaviorism theory, cognitive theory, social learning theory (such as cooperative learning theory), constructivism (such as situational learning theory, anchored teaching theory), etc., in which constructivism is the most prevalent one. However, the theoretical system for constructivism is still being developed, so there are difficulties in providing systematic theoretical guidance on the online teaching model. Second, the online teaching platform is a kind of software that connects teachers and students, while providing functions of teaching, learning, management, etc. Its own level of perfection determines the success or failure of online teaching. However, existing online teaching platforms are not perfect, and a lot of course information is still relatively simple and rough, including slightly outdated learning content, low quality videos,

unscientific test papers, incomplete discussion areas, lack of in-depth interaction, etc. The existence of these defects greatly restricts the progress of online teaching.

2) Teachers lack knowledge for online teaching, and their online teaching ability needs to be improved

Compared to key universities or public institutions that have a long history, the teacher resources in newly-built undergraduate colleges are relatively poor. Production of online courses, shooting of video, etc., require the teachers to have a high level of professional computer knowledge. Objectively speaking, teacher resources in newly-built undergraduate colleges are poor, there are few "masters", and many teachers fear difficulties and lack confidence in producing online courses. On other hand, college teachers do not fully understand online courses, and quite a number of them have a utilitarian view of teaching. Most teachers believe that in the current title evaluation system, carrying out online teaching reform requires a lot of energy, but it provides no significant benefit for their personal income. This also leads to poor enthusiasm and inadequate internal driving force among teachers [7].

3) Students have weak self-control, and learning effect needs to be improved

Compared with higher-level universities, the background of the newly-built undergraduate colleges is complex and the quality is not standard [8]. This undoubtedly brings about some kind of "congenital" difficulties to online course teaching. It should be said that the majority of students are very enthusiastic about online resources, but without active and effective guidance and supervision by teachers, many students will not be able to use online resources to learn independently, and they lack awareness in choosing the right courses for learning among the massive resources. Some students pursue online courses just for fun or to seek new things; in addition, several students in private colleges lack self-control, and have poor study habits; furthermore, some students even employ others to learn the courses on their behalf. This has also led to the result that general knowledge courses have not been as effective.

4) Quality control is not yet mature, and the incentive mechanism needs to be improved

Compared with classroom teaching, online teaching mainly relies on students' conscious efforts, independence and ability to study on their own. The teacher is effectively absent, as they cannot monitor the real time status of the students' learning efforts, and students' independent study is susceptible to influence of external factors and interference. Compared with classroom teaching, the learning process of students in online course can only be analyzed based on the "online time", "logins", etc., which are insufficient to monitor the online learning process. Furthermore, online teaching costs time and effort; setting up online courses is cumbersome and producing online videos cost a lot of time, however, evaluating job performance is difficult. At present, private colleges are still in the exploratory stage, and the incentive policy for teaching online courses is still not yet properly implemented. This also led to the relatively low enthusiasm among teachers to a certain extent.

IV. SUGGESTIONS ON DEEPENING TEACHING REFORMS FOR ONLINE COURSES IN COLLEGES

With continuous improvement in personnel training, the use of information network to change the traditional teaching model is an important issue that private colleges must face. To continue to promote the reform, colleges must overcome difficulties and take multi-pronged approaches, to comprehensively promote reforms in online course teaching.

A. *Increase theoretical research efforts to further improve the teaching platform*

The reform of the online teaching model is a systematic project that has many influencing factors and involves a wide variety of aspects. It needs the attention of the entire society and all colleges. Particularly, it requires further theoretical exploration, formation of a concept paradigm to guide online learning, and enhancement in theoretical approach to guide reforms in course structure and training programs. Colleges need to strengthen collection of teaching information, teaching data analysis and study learning behavior to carry out personnel training based on data, like a hospital does, rather than based on perception. In addition, colleges must make greater efforts to further improve the online teaching platform. The platform is the core of online teaching, and needs greater human and financial resources, to ensure the content of the teaching platform is updated in a timely manner, there are higher quality videos, comprehensive course material, effective test papers, more comprehensive discussion area, greater interaction features, etc. The teaching platform should be built into one that everyone says is good, after using.

B. *Strengthen teacher training to give full play to their role*

Teachers are the backbone and main force to carry out online teaching, however, at present this main force is not really interested in online teaching, and many teachers are still in the "wait and see" stage. Therefore, colleges must first publicize and promote online teaching, and change the view of teachers. Most teachers are still not aware of online courses. Colleges need to let teachers know that although conducting "MOOC" costs a lot of time and energy, it is still beneficial. In the future after teachers retire, these classes will still help many students, which is very meaningful. Furthermore, colleges should further train teachers. It should be noted that colleges still lack training in online teaching, so it is imperative that they actively conduct training on online technology, and encourage teachers to actively participate in online teaching activities. At the same time, it is also necessary to revise the teaching management system, and take into account the online learning activities in which the teacher participates in or guides the students in the teaching and research workload, so as to guide teachers to conduct online teaching.

C. *Increase efforts to guide students in conducting independent study*

As online teaching is relatively new, there is no mature reference model. There are many issues that require further study, such as how to guide students to self-learn online, how to give instructions, when to intervene, what kind of guidance to provide, etc. The author believes that due to the weak self-learning ability of students in private colleges, it is necessary to focus on several key points: First, organize an online learning group, to promote mutual supervision and encouragement through the study group between students; second, require students to prepare individual learning programs, including online learning objectives, steps, methods and tasks; third, require students to submit study reports and conduct learning activities, and encourage them to seriously self-evaluate and analyze attribution, in order to better promote themselves. Supporting measures need to be refined, to truly promote online learning by students.

D. *Promote quality evaluation system to improve the incentive management mechanism*

The effect of online teaching is the key to determine the existence of online teaching. Private colleges need to pay more attention to the quality of learning. Therefore, newly-built undergraduate colleges should first establish a "teaching quality online evaluation system." Based on the openness and interaction of online teaching, the system can provide a platform wherein the teachers, students, teaching managers and domain experts can evaluate the teaching effect and teaching quality in the current teaching process, and record the evaluation results in the teaching quality evaluation database, to provide material and feedback to facilitate improvement. Furthermore, colleges should also make further improvement in the incentive management mechanism. In addition to focusing on developing online teaching resources, developing a teacher team, interaction between teachers and students, evaluating the teaching effect and suggestions, private colleges need to also give equal prominence to online teaching and study, with scientific research; they need to recognize the title evaluation mechanism, and promote and drive teachers to carry out online teaching. This is the ultimate solution for the development of a long-term online teaching management model.

ACKNOWLEDGMENT

This paper is one of the phased research results of the 2016 college-level important teaching reform bidding project – "Research and Practice of the Evaluation System of Applied Undergraduate Colleges—Taking major and courses as core" (2016JA1003) of Zhejiang Shuren University, and also one of the phased research results of the 2016 college-level important teaching reform bidding project – "Research on the Adaptability of Reform of Public Basic Courses in Applied Undergraduate Colleges in the New Situation" (2016JA1004).

Brief author introduction: Jin Jinbiao (1969-) is from Yiwu, Zhejiang Province, and is a Professor, and Dean of Office of Academic Affairs at Zhejiang Shuren University. Liu Bin (1979-) is from Jiujiang, Jiangxi Province, and is an assistant

researcher and Deputy Director of the Department of Basic Courses at Zhejiang Shuren University.

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