

Action Research on Online Teaching in Ningbo Universities Under the Guidance of "Suspending Classes Without Stopping Learning"

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ABSTRACT

Under the guidance of suspending classes without stopping learning, online teaching covers all disciplines in colleges and universities, which has become an inevitable choice for teaching during the period of epidemic prevention and control. This research conducted a survey on the development of online teaching in colleges and universities in Ningbo, and verified that online teaching and classroom teaching are "substantially equivalent". Reflections and suggestions are made from the aspects of the construction of teaching platform and teaching resources, the reform of mixed teaching mode, the ability of "Internet +" teaching and learning, and the application of big data in the teaching process.

Keywords: *suspending classes without stopping learning, online teaching, substantial equivalence*

1. INTRODUCTION

A novel coronavirus infection in a sudden outbreak of the impact of the epidemic on the teaching order in colleges and universities, in February 4, 2020, the ministry of education issued the "Guidance on the organization and management of online teaching in ordinary colleges and universities during the epidemic prevention and control", and asked the universities to formulate online teaching implementation plan according to the school situation. In accordance with the requirements of "suspending classes without stopping teaching, suspending classes without stopping learning", colleges and universities in Ningbo respond in time and formulate relevant measures and programs for online teaching. In the battle of the epidemic, how should colleges and universities make use of the advantages of online teaching and the deep integration of information technology and education and teaching to promote the reform of teaching methods[1]? How to ensure the "substantial equivalence" between online teaching and classroom teaching?

According to the official documents and notices of teaching arrangement issued by colleges and universities during the epidemic period, this study takes universities in Ningbo as the research object, from the perspective of course coverage, online teaching methods, online teaching platform, online teaching guarantee measures, and focusing on the "substantial equivalence" between online teaching and classroom teaching, this study analyzes the overall online teaching of colleges and universities in Ningbo Status, as well as the analysis of the implementation effect of online teaching, so as to reflect on online teaching.

2. ON THE CURRENT SITUATION OF ONLINE TEACHING

2.1. Research object

In order to deeply understand the implementation status of online teaching during the epidemic period, this study screened the official notices, methods and plans of teaching arrangements published since February 4, 2020 through the official websites, official micro blogs of colleges and universities, official websites of academic affairs office, official micro websites of Teacher Development Center, etc. Taking 12 universities in Ningbo as the research object, this paper analyzes the implementation status of online teaching in Ningbo, selects the online teaching quality reports of 5 universities, analyzes the implementation effect of online teaching, and verifies the "substantial equivalence"[2].

2.2. Implementation status

A sudden epidemic has disrupted the original teaching and learning arrangements of colleges and universities. Colleges and universities in Ningbo have set up special education and teaching work leading groups during the epidemic prevention and control period, which has carried out a thorough deployment and arrangement of teaching work to ensure the smooth development of online teaching. According to the survey, the teaching courses are divided into theoretical courses, experimental courses, practical training courses and graduation thesis (Design) courses. Among them, online teaching mainly includes theoretical courses and

graduation thesis (Design) courses. Some experimental courses are carried out by using virtual simulation experimental platform. Other experimental courses are postponed and internship and training courses are suspended. 58% of the colleges and universities carry out online teaching according to the original school calendar, 92% of the colleges and universities open courses according to the timetable, and the course opening rate is high, and the courses offered cover various disciplines. Online teaching needs to rely on teaching platform and live broadcast platform: teaching platform, such as ChaoXing (92%), online open course sharing platform of colleges and universities in Zhejiang Province (50%), MOOC of China University (33%), Xuetao online (33%), MOOC alliance of Ningbo universities (33%); live broadcast platforms, such as Weibo (92%), QQ (75%), WeChat (67%), Tencent classroom (33%), and Learning Xitong (33%) and so on. All colleges and universities adopt the way of live teaching for online teaching. The proportion of recorded teaching and MOOC teaching is almost the same, 67% and 58% respectively, and the discussion (including task driven) teaching mode is 50%. Colleges and universities provide a lot of guarantee measures for online teaching. 60% of colleges and universities adopt manual support, 42% colleges and universities display or select excellent cases through official micro blog or official website, 42% of colleges and universities organize training related to technology or online teaching, and some universities set up technical teams to support, organize online teaching exchange salon activities, and provide electronic resources support[3].

2.3. Implementation effect

"Opinion" requires to ensure that the quality of online learning and offline classroom teaching is essentially equivalent. After one week, two weeks, or one month after the implementation of online teaching, colleges and universities will evaluate the online teaching quality in terms of course opening, student satisfaction, learning effect, interactive feedback, platform service, teaching arrangement and organization work[4][5]. This study screened out the online teaching quality reports of five universities. From the report, we can draw the following conclusions: 1. The colleges and universities have not only achieved the goal of "suspending classes without stopping learning", but also achieved the substantial equivalence between online teaching and offline projects, which are mainly reflected in the following aspects: 1. The course opening rate is high, the average opening rate is 93.7%; 2. The students' attendance rate is high, and the average attendance rate is 96.9%; 3. The overall satisfaction of students is high. The average satisfaction of online teaching is 90.6%; 4. The overall learning effect of students is good, 72.8% of students think that the effect of online learning is better; 5. The enthusiasm of interactive Q

& A is high, and the average satisfaction of students with online interaction is 81.2%; 6. The platform technical support service is in place, and the average satisfaction of students to online teaching platform and live platform is 81.6%; 7. The teaching arrangement is reasonable and clear, and students' satisfaction with teachers is reasonable and clear. The average satisfaction of teaching arrangement was 76.5%; 8. The students were fully prepared for the organization work, and the average satisfaction of the students was 94.2%.

3. OBSTACLES TO ONLINE TEACHING

Through the survey of the current situation of online teaching in colleges and universities in Ningbo, the substantial equivalence of teaching quality is verified, and the obstacle factors of online teaching are also explored.

3.1. Teachers and teaching obstacles

How should teachers grasp the opportunity of online teaching, update teaching design and interactive design, and find teaching resources, combined with the characteristics of the course; How should teachers use the high-quality MOOC resources introduced by the school to speed up the development and construction of high-quality online quality courses such as "MOOCs" and "micro classes"; How should teachers improve their information-based teaching literacy and actively participate in the information age in order to make technology become an important carrier of education development, we should explore the new teaching mode of combination of online and offline teaching.

3.2. Students and learning disabilities

How can students cultivate their own autonomous learning ability through this online learning; How can students participate in classroom activities, communicate with teachers and students inside and outside class to improve learning effect; How can students improve their information learning literacy, actively participate in the learning reform in the information age, participate in information literacy discipline competition, training, etc., so that technology can truly become learning an important carrier of development.

3.3. Universities and management obstacles

Colleges and universities should focus on the "substantial equivalence" of online teaching and

classroom teaching, focusing on teachers' accurate teaching, students' adaptive learning, and the guarantee of teaching operation mechanism. How to strengthen the construction of teaching platform and teaching resources, deepen the reform of mixed teaching mode, enhance the ability of teaching and learning in Internet plus, and explore the application of big data in teaching process.

4. CONCLUSION

Even if there is no epidemic, online education is bound to be a new mode of education in the future, but this "black swan" incident has accelerated the development of online education. China's education informatization has entered the era of 2.0, which calls for the reconstruction of teaching content resources, the reconstruction of teachers and students' teaching and learning ability, and the restructuring of teaching evaluation system. Colleges and universities should re-examine the function value of online teaching and face the future direction of education development, which can be explored and reflected from the following four aspects.

4.1. Strengthen the construction of teaching platform and teaching resources

In order to create application scenarios such as precision teaching, adaptive learning, intelligent evaluation and decision-making, an online course teaching platform supporting cross platform and cross terminal application, supporting mixed media learning and tracking learning behavior is introduced. Taking the platform as the carrier, learning output goals are set, tracked and implemented, and an intelligent teaching resource body with rich media and three-dimensional interaction is built the achievement of learning process and learning objectives, the implementation of the whole process of output oriented teaching, so that teachers can more accurately grasp the learning situation of students, enable students to obtain more rich and profound learning experience in more dimensions, and make teaching and learning more convenient and intelligent.

4.2. Deepening the reform of mixed teaching mode

This paper explores diversified mixed teaching practice, adopts the organic integration of MOOC resources and self built resources, and based on the resources of early teaching reform, explores the diversified teaching mode of MOOC resources based on the results report, topic discussion, practice practice, Q & A and scenario simulation. By grasping the opportunity of online teaching, combining with the

characteristics of the course, integrating Internet thinking, mining the supporting role of learning interaction and learning activities in expanding the supply of resources and improving the teaching effect, so as to improve the classroom efficiency, students' learning satisfaction and the achievement of teaching objectives.

4.3. Improve "Internet+" teaching and learning capabilities

Teachers' "Internet+" teaching ability is a necessary part of teachers' teaching and training, guiding teachers to innovate teaching ideas, improving teachers' information literacy, and enhancing teachers' abilities in using information technology to innovate teaching design, optimizing teaching organization and deepening teaching reform, and so on, to enhance students' autonomous learning ability and information technology application ability, and explore advanced training. Information literacy subject competition is carried out for all students. In order to enhance students' sense of acquisition and satisfaction, promote personalized learning, encourage students to learn independently and choose online quality courses, colleges and universities can carry out online open course credit recognition and conversion.

4.4. Explore the application of big data in teaching process

Through the behavior tracking of teachers and students in the teaching process, as well as the interconnection and data sharing of teaching related platforms, real-time attention should be paid to the dynamic changes of classroom teaching; The effectiveness index of classroom teaching should be constructed, and the real-time large screen of classroom teaching should be constructed to realize the monitoring, analysis and feedback of teaching data on the same day and on a regular basis, so as to promote teachers' reflection and continuous improvement in classroom teaching results and other management work needs, the original offline management into online status data real-time push, promote teaching, student management data sharing, real-time monitoring and intelligent early warning.

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