

Online teaching at China's universities during COVID-19

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Abstract—With the rapid popularization of Internet technology, the traditional teaching mode in colleges has been unable to meet the current teaching needs. How to make better use of Internet technology to realize online and offline mixed teaching during the epidemic is an important issue. The purpose of this paper is to examine the factors affecting online learning. Our results demonstrated that self-control, course interest, teacher's teaching style and method, and teaching platform are essential factors affecting online learning.

Keywords—College students, COVID-19, China, Online teaching

I. INTRODUCTION

In active response to COVID-19, universities in China have launched large-scale online teaching, which is both a test of and a challenge to digital learning, and an important opportunity to promote the teaching of information technology. Online teaching can compensate for shortcomings of traditional classroom teaching, such as simple teaching process and weak integration of teaching contents [1][2], and could strengthen the reform of undergraduate education and teaching.

During the epidemic, many educators have become forced to merge online teaching and traditional teaching, and it has become more important than ever to consider the advantages of the Internet and how it can supplement traditional classroom lessons [3][4]. This study explores the factors that have affected students' online learning during the epidemic to date, and puts forward suggestions and strategies for the development of online teaching in the future.

II. RESEARCH PROCEDURE

A survey on factors affecting college students' online learning during COVID-19 was conducted. The main respondents were college students at a university in China. A sampling survey was conducted using an online questionnaire [5], consisting of eight main aspects: personal, teacher, and online class platform factors; the duration and status of the class, and interactions with teachers; and learning quality and influencing factors. A total of 397 valid questionnaires were collected.

III. RESULTS

Student online learning

According to the survey results, most students believe that taking classes online will be disturbed by other factors. In addition, they believe that factors such as weak online supervision, poor self-regulation ability, and lack of an appropriate learning environment will lead to poor outcomes. In addition, some teachers have difficulty using

the online platform timely and effectively, which also reduces students' enthusiasm for learning and initiative for online courses.

On the other hand, online courses during the epidemic are viewed as being rich and diverse. Students can learn independently through different avenues chosen by teachers, watch recorded and broadcast courses on their own time, and communicate effectively with teachers through forums, which enriches the course forms, time, and absence of geographic restrictions.

Factors affecting students' online learning

During online courses, whether students can focus on classwork depends on whether they can resist temptations such as entertainment apps on mobile phones, computers, and other devices. In the survey, 74.23% of the respondents believe that their self-control has the greatest impact on the effect of online learning. Overall, 56.7% of students believe that their interest in the course affects the teaching effect. Whether students are interested in a course is not only related to the knowledge content of the course but also to the teaching effect of teachers.

Moreover, 79.62% and 80.15% of the students surveyed think that a teacher's teaching style and method affect the outcome of their online class, indicating that teaching strategy is an important factor affecting students learning. Finally, 62.94% of students believe that whether teachers can skillfully use the online teaching platform also affects their learning.

IV. DISCUSSION

Cultivate autonomous learning

During the COVID-19 pandemic, it has become clear that students need to have a level of literacy with certain forms of information technology to be able to acquire and integrate learning resources. Therefore, students should formulate learning objectives and contents according to those objectives, so as to cultivate an ability of autonomous learning and improve their interest in online courses [6].

Change traditional educational concepts

Teachers should constantly update their educational ideas. They should be encouraged to fully embrace their personal advantages in various ways to form a unique teaching style [7]. At the same time, they should also actively adapt to the use of new course platforms and the production of information resources [8]. In terms of time flexibility, the school should reformulate the class schedule in consideration of the actual situation of students at home, and provide students with a variety of different online classes, such as a combination of live broadcasting and

video broadcasting, so as to better carry out efficient online teaching.

Establish and improve the network teaching system and mechanism

To strengthen the efficacy of online teaching, it is essential to establish a streamlined teaching mechanism and standardize the use network teaching platform. At the same time, teachers should be regularly trained on the use of online teaching platforms and apply their knowledge to practical lessons [9].

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