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ONLINE TEACHING OF CONSTRUCTION UNDER THE BACKGROUND OF COVID-19

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Анотація

Починаючи з весни 2020 року, захворюваність на COVID-19 протягом короткого часу стрімко збільшилась, багато країн а також і Україна активно розпочала проводити навчальну процес в Інтернеті. Це перший випадок в світовій практиці, коли відповідні курси спеціальностей архітектури та освітній процес взагалі у ЗВО та школах перейшов на дистанційну форму. Для вчителів, викладачів, студентів та учнів це одночасно і виклик, і можливість для реформування викладання та впровадження інноваційних технологій у навчання. Попри стикання з деякими проблемами, режим викладання в карантинний період надає можливість для самостійного освоєння матеріалу, методів навчання. В даному дослідженні в основному аналізується переваги та недоліки викладання в Online режимі порівняно із традиційним режимом навчання. Вважаємо, що поєднання викладання в Інтернеті та традиційних курсів є цікавим напрямком реформування даного навчання в архітектурній спеціальності в майбутньому, а також раціональне поєднання двох форм навчання, що може оптимізувати структуру викладання та поліпшити якість підготовки.

Ключові слова: Дистанційне навчання, COVID-19, архітектура, інновації, ЗВО.

Abstract

Since the spring of 2020, affected by COVID-19, many countries have actively carried out online teaching work. This is the first time that related courses of architecture majors have been taught online. For teachers and students, it is both a challenge and an opportunity for teaching reform. While facing some problems, the teaching mode in a special period also provides a reference for future teaching methods. This paper mainly analyzes the advantages and disadvantages of online teaching compared with the traditional teaching mode, and thinks that the combination of online teaching and traditional courses is a direction of teaching mode reform of architecture specialty in the future, and the reasonable arrangement of the two can optimize the teaching structure and improve the quality of personnel training.

Keywords: online teaching, COVID-19, architecture, innovation , universities.

Architecture is a discipline about engineering technology and humanities, and professional courses occupy a very important leading position. The professional courses of architecture involve a wide range of subjects, rich in content, and rapid knowledge update. As an application-oriented major, with the development of technology, the course content is updated accordingly, and the means to solve problems are not the same. Taking the design courses in the teaching of architecture as an example, there is a great difference from most other major courses. From the initial site analysis, relevant case analysis and reference, a rough conceptual framework, to the deepening and even implementation of the plan, students learn step by step, and improve their design ability through training on different types of design topics again and again. Students often get real site information or virtual topics for design training, so as to exercise their ability to deal with site relations and spatial relations.

In early 2020, a sudden outbreak of covid-19 has invaded the world. In order to reduce the collective infection caused by the excessive circulation of personnel, many governments suggest that people stay at home and reduce outdoor activities[1]. In order not to affect students' learning and school teaching work due to the postponement of school, the Ministry of Education in many countries has advocated or forced schools to implement online teaching, and online teaching has become the focus of attention. In the traditional teaching mode, students mainly receive new knowledge by listening to the knowledge points taught by the teacher, watching the content of the course, etc.; the teacher mainly adjusts the teaching method by observing the state of students and feeling the classroom learning atmosphere. During the COVID-19 period, all the step-by-step design courses in the past have been transformed into online teaching, which has brought great challenges to teachers and students[2].

The change of teaching methods

The function of university courses can be divided into three aspects: teaching, application, and innovation,

and these three aspects are improved layer by layer. Taking design courses as an example, there are usually several fixed parts, namely theoretical explanation, task release, base investigation, process guidance, and image evaluation. The design course conducts design training through different types of projects, handles the space relationship of the site well, and then further has the sublimation and innovation of ideas and theories. After switching to online courses, various learning platforms, such as Google Meet, were used under the premise that the large progress framework remained unchanged. During the raging COVID-19 period, online courses have replaced traditional teaching based on professional classrooms or lecture classrooms, which have both advantages and disadvantages.

Advantages of changing teaching methods

Limited by the inability to quickly understand the learning status of students, online courses put forward higher requirements for teacher-student interaction. Compared with traditional teaching, online courses have more interactive technical means for teachers. Teachers can set up questionnaires to know the learning status of students at any time. Students can also send questions during class, so that teachers can immediately know the questions and feelings of students in the course and answer questions in time according to their aptitude. These new technologies and new methods are quite different from the interaction in traditional teaching in the past.

Nowadays, students have various channels for obtaining information. Teachers can recommend the same type of online course resources. Students can understand the learning objectives and content of this course in advance, and use them rationally to improve learning efficiency. Although such online courses have teaching effects that traditional teaching does not have, they also have problems such as the difficulty of reflecting the overall and structural nature of the teaching content, the difficulty of monitoring students' autonomous learning, and the difficulty of mobilizing teachers' enthusiasm. However, because such resources are recorded in advance, teachers should answer questions after students study. At the same time, such courses are often short and concise, with fragmented knowledge. It is difficult for students to associate them with relevant knowledge points. Teachers should help students to systematize the content of knowledge.

Online courses can review the course content anytime and anywhere to facilitate review and check for omissions. Whether the course is recorded in advance, or recorded and broadcasted at the same time, students can review the course permanently by setting it in advance. Through recording and broadcasting, it is ensured that even if students are unable to attend class in an emergency, they can also use mobile phones or computers to study after class, which is flexible and convenient.

In the process of teacher-student communication, the transmission of sound and image information is clear and not affected by spatial distance. Students can use the mouse or drawing board to share the screen through the software when explaining their plans. The screen of each sharer is clearly visible during the drawing exchange process. It replaces the multimedia classroom PPT sharing in the past centralized reporting, or many students listening to the teacher's guidance around a drawing. At the same time, other students can also discuss in groups or exchange mutual evaluations in time.

Disadvantages of changing teaching methods

Field investigation is a very important part of the design courses in the teaching of architectural courses. It is one of the necessary abilities for students to collect and sort out data on the spot, but online teaching can not achieve field investigation during the period of covid-19. After the students get the design task, they must first conduct a background analysis of the conceptual idea, including the project era background, policy background, planning background, location, historical evolution, etc. These above can still use the Internet for information collection, but the site analysis is more limited in completing online. When students get an external space design task, they can only rely on satellite maps to find relevant site information. The depth of site analysis that students can achieve is limited.

It is difficult to directly understand the status of students, which is an important difference between online teaching and traditional courses. In traditional courses, the status of students is clear at a glance, while online teaching often relies on video connections, quizzes, interactions, such as questions or discussions, to ensure students' learning status. Existing studies have found that some college students have weak self-learning awareness, fuzzy self-learning goals, lack of good self-learning habits and effective self-monitoring[3]. College Students' online learning attention is easy to be distracted. The survey shows that in the digital learning environment, learners' attention retention time for digital resources in the form of text presentation is generally less than 10 minutes, and that for digital resources in the form of video presentation is generally less than 20 minutes[4]. In addition, there are many uncontrollable factors that affect attention in the online teaching environment. Learning in the classroom has a strong learning atmosphere and teacher supervision, while online learning at home will be affected by the activities of family members and the environment around the

family[5]. In addition, entertainment games and social information on computers and mobile phones will also have great appeal to students, while students' non-learning behaviors are less restricted, which makes students easily distracted.

This puts forward higher requirements for teachers to organize teaching content. If only statistics of students' learning visit time be counted, without the precise organization of teachers, it is impossible to effectively supervise whether students are really learning.

Conclusion

Online courses cannot replace traditional classroom teaching, but can provide directions and ideas for teaching reform. Online teaching is a product of the development of the times and can make up for the shortcomings of traditional courses, but there are also drawbacks to online teaching. The combination of online teaching and traditional courses will become the "new normal" of future education. In future teaching, teachers need to correctly handle the relationship between online teaching content and traditional courses. Online teaching and traditional courses should complement and promote each other. The advantages of online learning, such as online platform interaction, autonomous learning, and online teaching management, are of great positive significance to the improvement of teaching quality. Nowadays, the teaching of architecture specialty should conform to the background of the information age, make good use of the online teaching experience in the period of cowid-19, adapt to the requirements of modern society and students' learning habits, improve the quality of teaching and personnel training, and better transport talents for the society.

LITERATURE

1. Xiaoping, H. and X. Zuoxu, Analysis on the Advantages and Challenges of Online Teaching in Colleges and Universities under the Epidemic. China Higher Education Research, 2020. 4: p. 18-22.

2. Yanli, L. and W. Junqin, Analysis of the status quo of university network teaching under the epidemic situation and countermeasures. China Electric Power Education, 2020.

3. Fuying, W., Investigation on the Status Quo of Autonomous Learning of College Students and Research on Guiding Strategies in the New Media Environment. 2015, Yangzhou University.

4. Wenwen, X., Research on the Influence of Digital Resources Presentation on Learning Attention. 2014, Huazhong Normal University.

5. Fangya, Z., Learning Attention and Its Control in Online Education Environment. Digital teaching in primary and secondary schools, 2018. 9.

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