Research on online teaching problems and countermeasures

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Abstract. Through the online teaching survey of polytechnic, it is found that there are few mature high-quality online courses in polytechnic at this stage, teachers' teaching ability and teaching methods cannot meet the teaching needs, and students' learning initiative and enthusiasm are not high. In response to the above problems, it is proposed to use information technology to explore how to promote the reform of vocational education in the aspects of quality curriculum construction, teaching model innovation, assessment and evaluation methods, and new forms of integrated teaching materials.

1 Introduction

Affected by the new coronavirus epidemic, the Ministry of Education issued the "Guiding Opinions on Doing a Good Job in the Organization and Management of Online Teaching in Ordinary Colleges and Universities during the Epidemic Prevention and Control Period", requiring all colleges and universities to make full use of online course teaching resources and actively carry out Online teaching activities ensure the teaching progress and teaching quality during the period of epidemic prevention and control, and achieve the goal of "suspending classes without teaching, and without stopping learning" .[1]This puts forward a great test of teachers' teaching ability and teaching methods. Through the research on the online teaching of the higher vocational school, the author found that the current online teaching operation has the following problems:

Teachers are not fully prepared for online teaching resources, and most courses only have teaching courseware, learning task books, electronic textbooks, etc. Relatively abstract teaching materials;

Because there are few mature online high-quality courses, most teachers use the form of online live courses, the network delay of live courses is serious, the interaction between teachers and students is not timely, teachers are often tired, and students do not understand

Students' learning status is difficult to control, the learning efficiency is low, and the learning effect is unsatisfactory;

Students' self-learning ability is weak, and teachers upload materials to the class group, and only a small number of students can learn independently;

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There is no complete learning evaluation Mechanism, teachers are more subjective, and there is no reference standard;

It is difficult to carry out practical operations, and it is impossible to learn by doing.

Through the above investigation, we can find that there are few mature high-quality online courses in higher vocational colleges at this stage, teachers' teaching ability and teaching methods cannot meet the teaching needs, and students' learning initiative and enthusiasm are not high. Therefore, how to adapt to the "Internet + vocational education" "Demand, promoting the co-construction and sharing of digital resources, excellent teachers, and educational data, improving the information literacy of teachers and students, and promoting independent, ubiquitous, and personalized learning [2] are the problems to be solved in the current vocational education letter.

2 Relying on the platform to build high-quality online courses

To meet online teaching, mature high-quality courses are particularly important. With the development of information technology, various online teaching platforms such as: Smart Vocational Education, Chaoxing, Cloud Class, Wechat, MOOC, WeChat, QQ, etc. have provided a good platform for information-based teaching. Teachers should keep up with social needs, develop curriculum standards together with enterprises, deconstruct the curriculum system according to typical work tasks, develop granular resources according to knowledge and skill points [3], and use video, pictures, animation, audio, courseware and other media to be more comprehensive and three-dimensional. Explanation of knowledge points and forming a material library. Develop homework, test questions, test papers, etc. for knowledge points, and form a test question bank. For practical courses, functions such as step-by-step operation, continuous action, and learning-by-doing can be realized through micro-videos and simulation software.

3 Innovative teaching mode to stimulate students' interest in learning

At this stage, how to innovate the teaching mode and stimulate students' interest and initiative in learning is the primary problem of teaching. Teachers should make full use of information technology, change traditional teaching methods, make classrooms lively and interesting, and fully mobilize students' enthusiasm for learning.

Before class, teachers upload the learning resources of each knowledge point to the platform, and assign points to each learning resource. Students will get corresponding points for each resource they watch and participate in an activity. Teachers publish learning tasks on the bulletin board in advance. Students can learn independently by watching learning resources such as videos, PPT, and animations. They can also use brainstorming, questionnaires and other forms to conduct pre-class learning. After the students study, the students' self-learning effect is tested through pre-school test questions.

During the class, teachers can use the sign-in functions of platforms such as Chaoxing and Cloud Class to sign in, which is convenient for counting the attendance of students. In order to liven up the atmosphere, you can answer questions in the form of "shaking" and "responding". In the discussion area, the students discussed the problems and problems encountered in the self-study. The teachers discussed the problems with the students, and answered the difficult problems, and explained the common wrong questions of the students in the test. For courses with strong practice, teachers should play the experimental training process in the form of video, and explain the methods and steps of the experiment and practical training. Finally, students conduct practical exercises on the experiment and

training platform, and can upload the experimental training process and results to the platform to share their own experience and results.

Consolidating and digesting the learning content after class is an indispensable part of learning. Use the network platform to arrange homework, assign group tasks, organize online Q&A, and share excellent homework and excellent works on the platform, so that sharing can be realized anytime and anywhere.

Through the use of information technology, the traditional teacher-centered teaching mode is transformed into a student-centered teaching mode, and students can move, which can mobilize students' enthusiasm for learning, stimulate students' sense of learning achievement, and make teachers' teaching change easier.

4 Multiple assessment methods to objectively reflect students' learning ability

The traditional evaluation method is life-long and cannot objectively reflect the learning ability of students. Information technology platforms such as Chaoxing, Cloud Class, etc. all have data statistics functions. Students' usual attendance, homework completion quality, learning effectiveness of learning resources, participation rate of teaching activities, usual test results, final test results, etc. It should be included in the assessment and evaluation of students, and the corresponding assessment ratio should be given, so as to truly reflect the comprehensive strength of students' learning. Data analysis through the platform can not only objectively and fairly reflect the learning situation of students, but also make statistics more convenient, more efficient, and more detailed in data analysis [4]. At the same time, students always pay attention to their own learning points, which can urge students to actively participate in teaching activities.

5 Development and application of new form integrated teaching materials

In traditional textbooks, without the guidance of teachers, it is difficult for students to independently learn the boring theoretical knowledge and complex practical operations in the textbooks. Therefore, how to make the textbooks can display knowledge intuitively and three-dimensionally and make learning easy to understand is a question for teachers. Questions worth thinking about. The new form of integrated teaching materials can solve the above problems very well. The new form of integrated teaching materials and course resources are equipped with AR models, and you can scan the corresponding pictures in the book with your mobile phone to display model components, component structures, and mechanism principles. Scan the corresponding QR code in the book to watch the knowledge explanations such as micro-lectures and animations, so that students can learn the knowledge content without the teacher's explanation. Through the "interaction" with textbooks, students learn and operate while learning, making learning an interesting and fun process [5]. This has high requirements for teachers' personal ability. Teachers should not only design teaching content reasonably and scientifically, but also have the ability to use information technology.

6 Conclusion

Through this epidemic, it is not difficult to find that the use of information technology for teaching will become a new teaching model and a new standard for measuring teachers' teaching ability. It is the future development direction of my country's vocational education.

Therefore, teachers should change the traditional teaching mode, strengthen their own informatization teaching ability, realize the modernization of education, innovate the teaching mode, and improve the quality of education. The future teaching classroom will be a modern education where teachers and students use information technology to make it easier and more efficient.

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References

1. Ministry of Education. Do a good job in the organization and management of online teaching in colleges and universities during the epidemic prevention and control period [EB/OL]. 2020-02-05, https://www.chsi.com.cn/jyzx/202002/20200205/1875065375.html.
2. Hu Fuxiang. Smart Vocational Education Based on Big Data: Connotation, Platform Design and Application . China Vocational and Technical Education, 3,85-91(2017)
3. Hong Guofen, Kan Baopeng. Research on the construction of smart classroom teaching mode based on vocational education professional teaching resource database. Journal of Shenzhen Vocational and Technical College, 5, 34-40(2019)
4. Xiong Miaomiao. Research on the innovative application of Chaoxing Learning Tong in higher vocational English information teaching. Journal of Reading and Writing ,6,12(2019)
5. AR textbook: "Black Technology" that can be operated while learning and playing [J/OL].2017-12-18,https://www.sohu.com/a/211275092_100011813