

Optimization Path of College Network Classroom in Teaching Practice in Post-Epidemic Era

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Abstract. The rapid development of Internet technology provides technical support for online classroom. Since the COVID-19, online classroom has been widely promoted and integrated with traditional classroom. However, the practice of online classroom in China is short and the experience is not yet rich. Through the survey of online classroom use and satisfaction of college students, it is found that the evaluation of online classroom is mixed. It is mainly attributed to students' learning attitude, outdated teaching methods of teachers, imperfect teaching management and other problems. To solve these three problems, we should increase the publicity of online classroom to correct students' learning attitude. Teachers should use network technology resources to realize the diversification of teaching methods, and schools should use multiple evaluation to improve teaching supervision, so as to promote the high-quality development of online classroom.

Key Words. Post-pandemic era; Online classroom; Practice of teaching

1. Introduction

After the outbreak of COVID-19, universities and colleges have started the online teaching mode of "continuous suspension of classes". Online classroom is an online learning mode advocated and encouraged by the Chinese government and the Ministry of Education in order to actively prevent and control the epidemic, ensure health and safety, and not delay the study of college students. Although online classes played an important role in the critical period when the epidemic was raging, there was a mismatch between teaching and learning in online classes under the condition of the normalization of the epidemic, which led to the inefficient learning state of college students [1]. How to correctly open the online classroom "without suspension", after nearly three years of online classroom teaching practice, explore the optimization path of online classroom in college teaching, to provide a reference for the promotion of online classroom to daily teaching.

2. The Relationship Between Network Classroom and Traditional Classroom

Network classroom is a long-distance online interactive classroom based on the Internet network. Generally, network transmission technologies such as audio and video

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transmission and data collaboration are adopted to simulate the real classroom environment and provide students with an effective teaching and learning environment through the network [2,3]. The network classroom is not only an empty place of pure materialization, but also a unity of materiality, spirituality and sociality, that is, the classroom should be a place for teachers and students to carry out spiritual, cultural and emotional communication and dialogue. Compared with the traditional classroom, the teaching subject, teaching content, teaching organization, teacher-student relationship and evaluation methods of the network classroom are rooted in the traditional classroom, but on the basis of the traditional classroom, great changes have taken place.

2.1 The Innovation of Network Classroom to Traditional Classroom

With the extensive promotion of Internet technology in the field of teaching, based on the expansion of the Internet field, new online classes such as MOOC, micro-courses, intelligent education cloud and YY Open Class have emerged [4-6]. These online classes initially move the traditional classroom teaching methods to the network platform with the help of the network terminal, breaking through the time and space restrictions of the traditional classroom administrative class, so that the classroom teaching can be carried out anytime and anywhere. Online classroom enables students to have a brand new learning experience inside and outside the classroom. Massive online information not only broadens college students, but also creates fair and high-quality education resources. But looking at the world, college teaching still follows the traditional class teaching system, the network classroom is just a teaching auxiliary way, the traditional classroom is the basis of teaching, the network classroom is the expansion of the traditional classroom.

2.2 The Online Classroom Is the Product of the Information Technology of Traditional Classroom Teaching

The traditional classroom is mainly taught by teachers, focusing on basic knowledge and theoretical knowledge. The traditional classroom is subject to time, teaching facilities and equipment and other factors, teaching means and paradigm are relatively simple, even with the use of multimedia, teaching whiteboard and other auxiliary equipment, the traditional classroom teaching mode has not changed, students still take listening to the lecture as the main task in class. With the popularization of 5G technology, online classroom can collect and filter complicated network information, present cutting-edge and valuable knowledge to students, and share teaching resources through online classroom. Through information-based teaching, the teaching content is presented in a richer way.

2.3 The Network Classroom Will Transform the Traditional Classroom into A Diversified Teaching Model

Traditional classroom only involves two teaching subjects, teachers and students, and they use textbooks as media to build the interactive relationship between teachers and students. Confined to the traditional classroom for the majority of classroom teaching, teacher-centered, so the classroom is unified. The online classroom breaks the unitary teaching mode of the traditional classroom. With the help of network information technology and media, the online classroom can establish a diversified, virtual and

interactive classroom [7,8]. Teachers can pay attention to students' independent learning ability through online classroom, expand knowledge learning related to their major, and provide all-weather services [9]. Students can take extended learning and online tests through the online classroom to achieve two-way interaction between teachers and students [10-13]. In addition, the online classroom can also introduce experts, scholars, famous people to participate in the classroom teaching[14-18].

3. Survey on The Use and Satisfaction of Online Classroom in The Post-Epidemic Era

China's online classroom started in 1994, but it was relatively late and developed slowly compared with foreign countries. Until the popularization of 5G technology, college students have become the most active group in online activities, which provides the possibility for the promotion of online classroom. In addition, after the outbreak of COVID-19, the Ministry of Education's requirement of continuous suspension of classes has made online classroom have a large number of teaching practices. Although the network classroom and the traditional classroom is two integral ones, has its irreplaceable role. However, there are some problems that need to be solved in the practice of online classroom in recent years. In order to accurately understand the use of online classes in colleges and universities, we conducted a survey through the questionnaire star. 300 college students were selected to issue questionnaires, and 286 valid questionnaires were collected to make a statistical analysis on the use status and satisfaction of online classes.

3.1 Basic Information about the Research Object

Among the valid questionnaires collected, 190 undergraduates accounted for 66.5%, and 96 junior college students accounted for 33.5%. From the retrieved questionnaires, the teaching equipment (FIG. 1), learning style (FIG. 2) and average daily online time (FIG. 3) used by them in the online class were counted respectively.

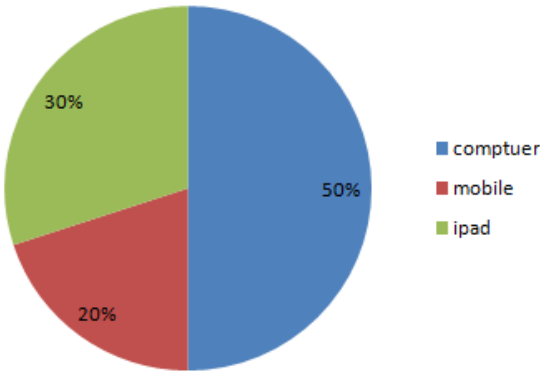


Figure 1. The teaching equipment used in the network class

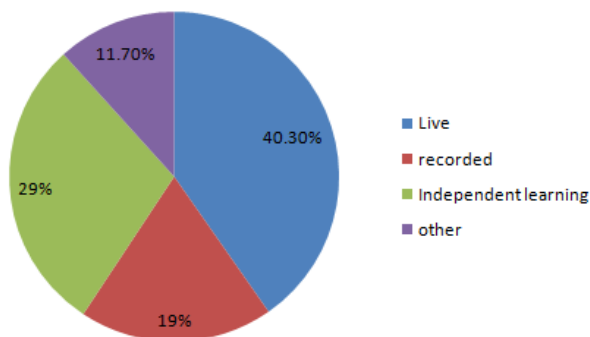


Figure 2. Learning Style

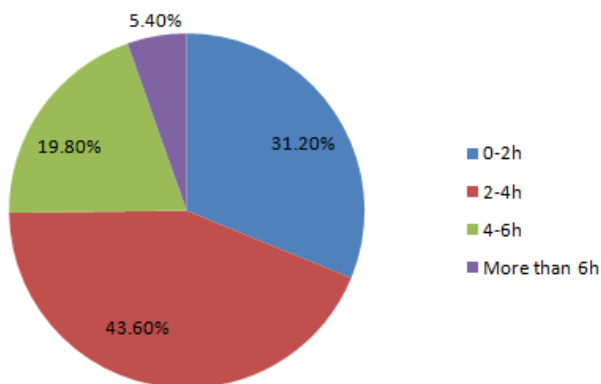


Figure 3. Average online study time per day

3.2 Application of Network Classroom in Colleges and Universities

According to the popularity of online classroom among college students, 73% of them prefer online + offline teaching, 21% prefer offline teaching only, and 6% prefer online teaching (Figure 4). In addition, compared with traditional classroom, college students believe that online classroom is superior to traditional classroom in terms of learning selectivity, unlimited time, rich learning resources, powerful network platform and stimulating innovative thinking (FIG. 5).

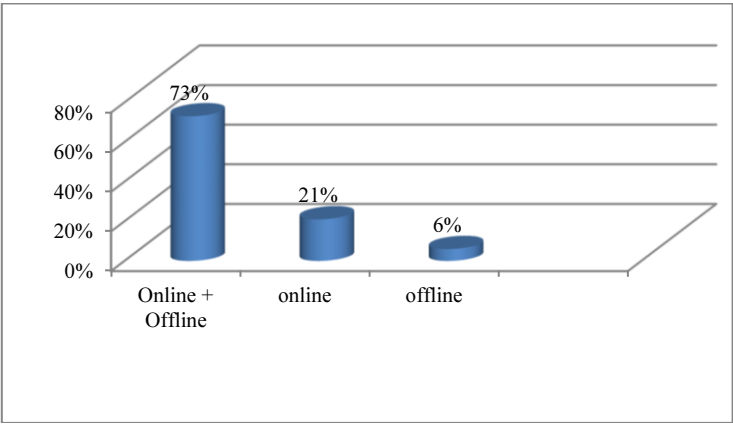


Figure 4. College students identify with online classroom

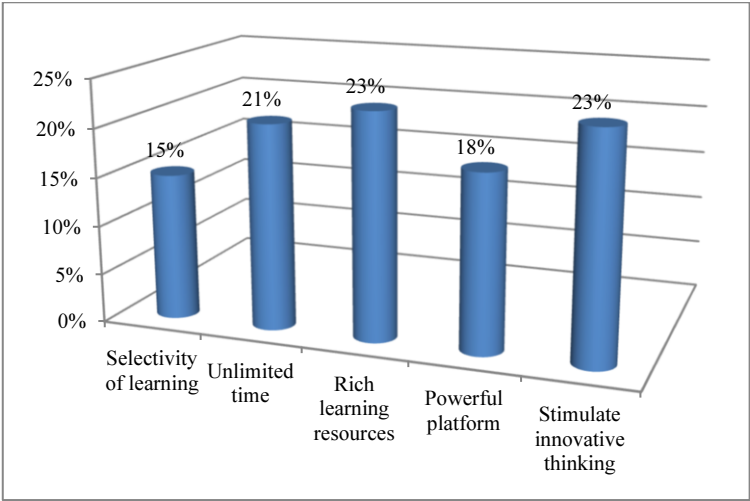


Figure 5. Network classroom advantage identification

3.3 The Use of Online Classroom Platform for College Students

The development of the Internet has led to the rise of a large number of online classroom platforms. Many college majors use different online classroom platforms in combination with their own school and specialty characteristics. Through the survey data, it is found that the mainstream online classroom platforms are MOOC, iCVE, and other online classroom teaching resources are relatively small (Figure 6).

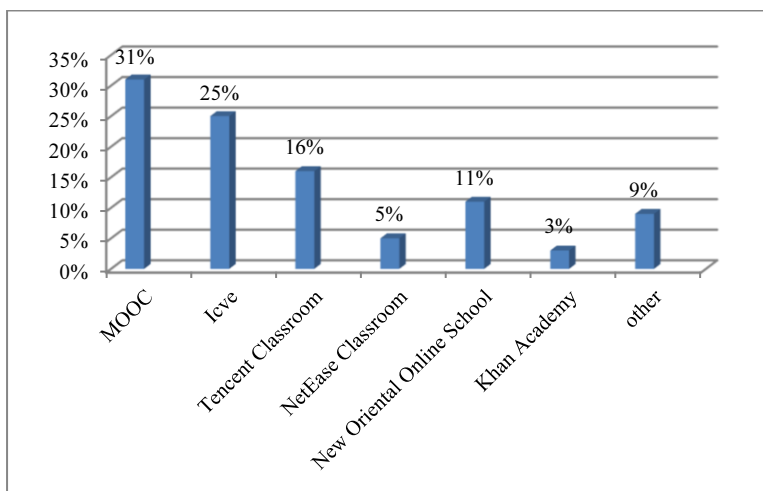


Figure 6. The use of online classroom

3.4 College Students' Satisfaction with Online Classroom Experience

When it comes to the satisfaction of online classroom experience, college students show obvious opposite views. From the collected questionnaires, it can be found that the number of students who support the continuation of online classes after the epidemic and the number of students who oppose it are basically equal. (Figure 7)

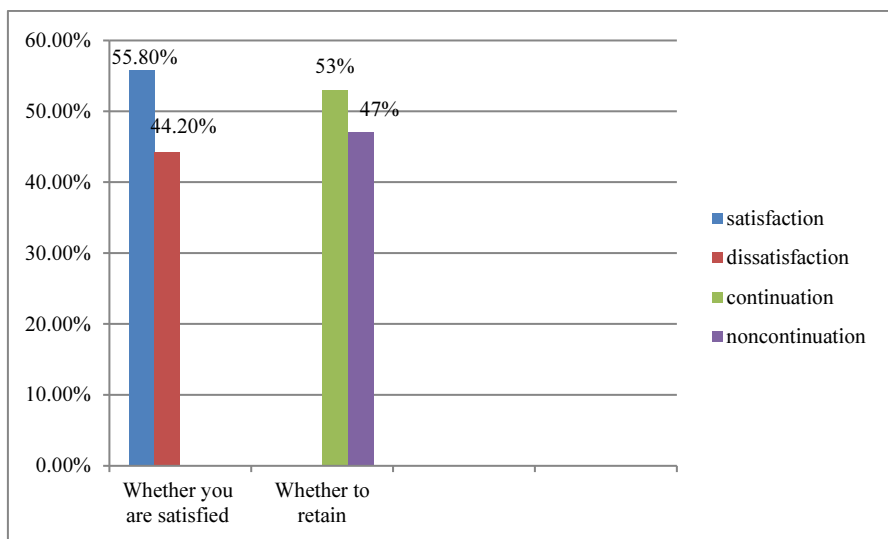


Figure 7. College students' satisfaction with online classroom experience

3.5 The Difficulties Encountered by College Students in Online Classroom Learning

In order to better analyze the factors influencing the effect of online classroom, the questionnaire sets open questions: "What are the difficulties encountered in online

classroom learning?" After statistical analysis of the collected questionnaires, it is found that college students have various difficulties in online classroom learning, which are mainly manifested as lack of a good learning environment, weak self-control, low efficiency of classroom interaction and discussion, inability to use campus network resources, and difficulty in completing practical course content, (see Figure 8).

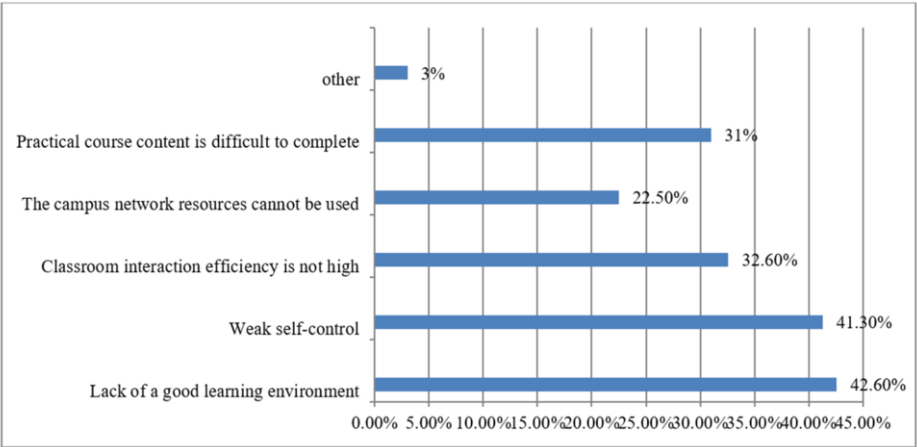


Figure 8. The difficulties encountered by college students in online classroom learning

4. An Analysis of Factors Affecting the Satisfaction of Online Classroom

From the results of the questionnaire survey, it can be found that the implementation effect of online classroom teaching is mainly affected by three factors. One is the students' own learning attitude. Some students have relatively weak self-control, and after signing up, they don't pay attention to the classroom learning and start to do their own things. Some students' self-learning ability is poor, unable to keep up with the teaching progress of the network class, the completion of homework is not ideal. Second, teachers' teaching methods need to be improved. Many teachers still use traditional classroom teaching for online teaching, and the teaching resources are not fully prepared and the interaction with students is not enough to stimulate students' interest in online learning. At the same time, it also neglects the feedback of students' learning situation, fails to find the problems of online class in time, and adjusts the teaching methods of online class. Third, the network classroom supervision is weak. Due to the wide space of the online classroom, the school cannot carry out remote supervision of the classroom teaching effect, let alone realize the full coverage of the inspection, resulting in the loose discipline of the online classroom, teaching evaluation effect is not satisfactory. In view of the above three factors, it is necessary to improve from three aspects: students' learning attitude, teachers' teaching methods and school teaching management.

5. Countermeasures to Strengthen the Construction of Online Classroom in the Post-Epidemic Era

5.1 Students' Learning Attitude Should be Correct

It is necessary for school counselors and class teachers to cooperate to strengthen the education of students who are not enthusiastic about learning and often mix classes, so as to correct their learning attitude. At the same time, the publicity work of online classes should be strengthened, especially for sophomores and juniors, who may become lazy and tired after studying in university for a period of time. Therefore, it is important for students to understand that online classroom is not a substitute for teaching during the epidemic period, but will complement the traditional classroom, and will be used for a long time after the epidemic.

5.2 Teachers' Teaching Methods Improved

Teachers need to change the traditional teaching concept from teachers' "teaching" as the center to students' "learning" as the center. It can be improved from the following points. First, the teaching design should focus on the learning characteristics of the online classroom, encourage students to practice independently, introduce problems discussion, brainstorming and other favored methods in class, and stimulate students to participate in the classroom learning. Second, make arrangements before, during and after class. Assign preview tasks before class and let students bring questions into class. Increase classroom activities in class, pay attention to the data feedback of students' classroom activities, timely report the quality of classroom interaction, and increase the proportion of process assessment of online classroom activities. After class, homework is assigned on the network platform, and the results of students' homework can be clearly reported on the platform data. Teachers solve students' confusion in learning by means of QQ group and platform Q&A. Third, increase the construction of network teaching resources. The short videos and micro lessons that students like are introduced into the teaching resources. Students can learn and supplement their own knowledge anytime and anywhere through these short videos.

5.3 The Improvement of School Network Classroom Management

Good teaching management is indispensable to high-quality online classroom. On the one hand, schools need to strengthen the construction of curriculum resources, encourage teachers to actively build online resource courses, strengthen the guidance of teaching teams, organize teachers with good online classroom teaching effect to promote and exchange experience, and help and guide the construction of curriculum resources. On the other hand, it is also necessary to increase the teaching inspection of online class, from teaching plans, teaching plans, online class construction materials, organization of online lectures and other management methods, and feedback to the teacher, to ensure the completion of teaching objectives. In addition, it is also necessary to pay attention to the time arrangement of the network class. The class hours and time of the network class should be reasonably arranged. It should not be too long, otherwise it is not conducive to the physical and mental health of the students.

6. Conclusion

During the epidemic period, the online classroom played its advantages of time and field, and realized the suspension of classes without suspension. Teaching in the digital age should keep up with The Times. While giving full play to the advantages of the network classroom, the drawbacks of the traditional classroom single teaching are corrected, so that students' learning from "I learn" to "I learn". The formation of multiple evaluation of school teaching management will play a positive role in promoting educational equity in the future.

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