Research on the Blended Teaching Mode in Colleges and Universities in the Post Epidemic Era

Rong Li[(✉)]

School of Automation and Electrical Engineering, Linyi University, Linyi 276005, China
lirong@lyu.edu.cn

Abstract. In recent years, with the rapid development of mobile communication technology and "Internet + education", blended teaching has grown rapidly. Since the outbreak of the COVID-19, blended teaching has made rapid progress under the opportunity of "no suspension of studying" and "no suspension of teaching", and the tempering of various difficulties and needs. In the post epidemic era, teachers in colleges and universities should change their teaching ideas, and the blended teaching mode will become the "new normal". In this development, we should strive to improve teachers' information technology literacy, stimulate students' autonomous learning, establish multi-channel learning resources, build a "Trinity" teaching model, and optimize curriculum design and classroom structure.

Keywords: Post epidemic era · Blended teaching · Teaching mode

1 Introduction

Based on the rapid development of information technologies such as Internet+, cloud computing and 5G communication, China's education informatization construction has entered a new stage—"Education informatization 2.0". Under this background, blended teaching presents a blowout development trend. Its essence is to create a truly highly participatory and personalized learning experience for students. However, while the quality video and broadcast courses on the network platform have made great progress, the development of online real-time interactive live broadcast classes lacks sufficient opportunities. When the COVID-19 hit, college students were forced to be isolated at home. Colleges and universities actively responded to the policy requirements of the Party Central Committee and the Ministry of education on "no suspension of learning" and "no suspension of teaching", and paid close attention to the work deployment, which also brought a good opportunity for the development of online real-time interactive live broadcast classes.

At present, the epidemic situation in China has been effectively controlled. However, due to the multi-point spread of the epidemic and the long-term existence of the virus, we have entered a post epidemic era. In this context, while continuing to carry out the traditional offline teaching mode, we should always be ready for the online teaching.

Even since some students cannot return to school in time, we should adopt the offline and online synchronous teaching mode. This is not only a great challenge to our curriculum design, teachers' lesson preparation and implementation, but also a good opportunity for the development of blended teaching.

After more than 20 years of development, the connotation of blended teaching has been further enriched. At this stage, the concept of blended teaching is rich as "interactive teaching situation based on mobile communication equipment, network learning environment and classroom discussion". At this stage, experts and scholars have changed their research perspective from technology and teachers to college students, emphasizing the creation of a creative and personalized learning experience for college students that can truly participate and have a high degree of participation, and highlighting the mixing of teaching and counselling methods in a "student-centered" learning environment.

2 The Dilemma of Online Teaching Mode in Colleges and Universities in the Post Epidemic ERA

In the post epidemic era, under the background that the 《Guidance》 issued by the Ministry of Education clearly requires "no suspension of teaching, no suspension of learning", while following the traditional offline teaching, college teaching should also be ready to carry out online teaching. Online teaching is not a mechanical copy of offline teaching, and its development is troubled by many factors.

2.1 Difficulties in Monitoring Students' Learning Status

Due to the lack of effective supervision in online teaching, students' self-discipline is uneven, and many students' self-discipline is poor. Not only can they not complete autonomous learning, but even the effect of online classroom teaching is greatly reduced. Even when some students participate in online classroom teaching, they just log in to the teaching platform to punch in and sign in, and then put the classroom aside to play games or do other things unrelated to learning on the Internet. It is found from the teacher's side that he is also listening to the class through the camera, but there is only the appearance, not the essence.

2.2 Poor Classroom Interaction

In the process of offline teaching, college teachers attach great importance to the interactive communication links in the classroom, especially the vocal music class, dance class, foreign language class and experimental class. Moreover, teaching interaction and communication also occupy a heavy proportion in the overall teaching time allocation. However, the most used online teaching interaction methods are voice and video. Due to the influence of many factors, such as poor network speed and stability, insufficient support for teaching space and equipment environment, imperfect teaching platform functions, limited interactive communication and display, it is impossible to achieve benign interaction and communication in the process of classroom teaching. Even if the teachers try their best to mobilize the classroom atmosphere and stimulate students to actively participate in classroom communication, but the students at the other end of the network did not respond because of network delay and other factors.

2.3 Outdated Curriculum Design

Curriculum design refers to the research activities of teaching planning for a course content. In the era of traditional offline teaching, curriculum design has certain stability, especially for basic curriculum teaching. During the epidemic period, colleges and universities were forced to change from offline teaching to online teaching, and the time was short. Therefore, most colleges and universities still use the previous curriculum design. However, during the implementation of online teaching, it is found that there are many inadaptability problems, because the online teaching mode is not a mechanical copy of offline teaching, and it is not as simple as changing a class form to achieve a good classroom teaching effect.

2.4 Classroom Teaching Fatigue

The traditional offline classroom teaching is 45 min per class, which has been proved to be reasonable through decades of teaching practice. However, when the classroom teaching was forced to change from offline to online, and still insisted on 45 min of classroom teaching time, the effect was not satisfactory. As the students stare at the computer screen for a long time, even some students are in poor conditions and can only use smart phones to take classes. If this lasts for 45 min, it will bring visual fatigue to the students, or even reduce their eyesight. In addition, due to the network communication technology problems, there will be frequent disconnection during the congestion period, which will bring impatience and even psychological fatigue to the students. In the long run, the double superposition of visual fatigue and psychological fatigue will bring a great burden to students' learning, even a negative effect. It will not only fail to improve the classroom teaching effect, but even lead to the gradual decline of the classroom teaching effect.

2.5 Simplification of Online Teaching Form

During the epidemic period, college teachers were forced to change from offline teaching to online live classes. However, the traditional mode of offline class hours is still used in all links from curriculum design, teacher lesson preparation, teaching implementation to teaching evaluation. Practice has proved that the teaching effect of a single online live class is greatly reduced, which not only cannot improve the teaching effect, but also is lower than that of the traditional offline teaching mode. It is also a teacher led teaching class, but with a change of form, the effect will be very different. Because the real virtual classroom cannot completely restore the real offline teaching environment, as well as the emotional expression and emotional communication between teachers and students, students and students. The copied and single online live class cannot reflect the progressiveness of educational informatization. On the contrary, because of its inherent shortcomings, it leads to the reduction of classroom teaching effect, which must attract our attention.

3   Math and Equations

In the post epidemic era, the blended teaching mode will become the "new normal" of teaching in major universities across the country. Professor Ulrich Teichler, a famous higher education research expert, believes that in the post epidemic era, global higher education institutions can try to take this opportunity to build more creative blended teaching with organic integration of online and offline. Therefore, it is particularly important to explore the practical path.

3.1   Construction of Offline and Online Trinity Teaching Mode

In the post epidemic era, due to the multi-point spread of the epidemic, while following the traditional offline classroom teaching, we should always be ready to open the online virtual classroom, and build a new online and offline trinity teaching model with the help of cloud platform, big data, and artificial intelligence. Combine the traditional offline physical classroom, online virtual live classroom, and finished courses on the network platform to form a new teaching mode in the new era. This teaching mode is more flexible and more adaptable to crisis. In case of school shutdown, all staff can start online teaching. When students in some areas cannot return to school for some reasons, they can immediately implement offline physical classroom teaching for students at school, and synchronously realize remote live broadcasting of offline physical classroom. After all, traditional offline classroom teaching cannot be completely replaced.

3.2   Reshaping Online Classroom Teaching Structure

The length of the traditional offline class is 45 min. In the past, our online live classroom completely followed the offline classroom teaching mode. Practice has proved that the teaching effect is not good, and the advantages of online high-quality learning resources cannot be brought into play. In the new era and new requirements, our classroom teaching design should, under the guidance of the "student-centered" educational concept, stimulate students' autonomous learning and active learning, and provide resources for students' higher pursuit. The outbreak of the epidemic has forced us to urgently adjust the teaching methods and change the teaching methods in a very short time. The fact has proved that the biggest problem exposed in the process of online teaching is that students' autonomous learning ability is poor and their enthusiasm for active learning is not high. In this case, the 45-min classroom teaching mode dominated by teachers can be changed to the $15 + 20 + 10$ mode. That is, in the first 15 min, under the background of teachers' questions, students use the high-quality learning resources of the network platform for autonomous learning. In the middle 20 min, teachers focus on the key points and difficulties, and in the last 10 min, teachers answer questions or guide students to analyse the key problems in this class. In this way, the students should be the main body to observe the students' mastery and response to knowledge, rather than being indoctrinated by teachers. Such segmented classroom learning dominated by different mainstays will reduce students' rigid thinking and reduce classroom fatigue.

3.3 Promoting the Transformation from "Teaching" to "Learning"

Our traditional educational idea lies in "teaching", and the educational idea more suitable for the sustainable development of higher education is "learning". With "learning" as the center, we should cultivate students' autonomy, self-discipline, and proactive learning pursuit, which will be more conducive to the realization of our "all-round" and "all staff" education plan. To realize the transformation from "teaching" to "learning", COVID-19 is a catalyzer, because the past practical experience of live online courses tells us that students' autonomy and self-discipline are the key factors for the success of live online courses. In the process of this transformation, college teachers are the key.

3.4 Using Online Resources to Increase the Proportion of Self-study

During the epidemic period, many MOOC resources were activated, which enriched our classroom teaching content, and the teaching from different perspectives and thinking also broadened the thinking vitality of students. In the post epidemic era, we need a combination of online live broadcast, offline teaching and offline self-study using online learning resources. Whether it is offline to online, online to offline, or offline to adapt to teachers' synchronous online live broadcast, students' learning thinking needs to be constantly changed, which requires students to have strong adaptability and self-learning ability. In the era of educational informatization 2.0, we have rich and excellent online learning resources, which brings great convenience to the improvement of students' self-study ability.

3.5 Make Good Use of Online Interactive Platforms

During the epidemic period, the online teaching interactive platform enriched the communication channels between teachers and students, so that the interaction between teachers and students is no longer confined to the classroom. This not only gives students more time and space for independent thinking, but also helps students' self-study and reflection, to improve the teaching effect. As the epidemic situation tends to be stable and enters the post epidemic era, our teaching forms tend to be diversified. However, the convenience and effectiveness brought by the online teaching platform to our teaching will make it exist for a long time. After the restoration of offline teaching, the online teaching interactive platform is still worth preserving, so that teachers can accurately analyse students' learning behaviour, master students' real learning situation, and carry out diversified assessment forms, to analyse the teaching effect objectively and systematically.

3.6 The "Super Ability" Requirement of College Teachers Under the Blended Teaching Mode

There is no doubt that the era of blended teaching mode has the highest requirements for college teachers' literacy and skills, and requires both internal and external abilities. Firstly, college teachers should have a full understanding of their own knowledge structure and skills, but also the transformation of their own identity cognition. Secondly, in

the context of the transformation of university teachers into knowledge anchors, their knowledge structure, teaching style and even personality characteristics are exposed to the public. Therefore, in the era of mixed teaching mode, it is more necessary to be inclusive and open-minded. Moreover, the external communication ability of college teachers is more important. In the era of blended teaching mode, college teachers need to have unimpeded communication with students whether before, during or after class, offline or online. Especially in the stage of guiding and assisting students to gradually change their learning focus, college teachers should not only highlight students' subjectivity in learning, but also create a learning atmosphere. They should also quit perfectly at an appropriate time, so as not to bring students a sense of isolation and loneliness, At the same time, it helps to cultivate students' autonomy and self-discipline. Finally, in the era of educational informatization 2.0, the information technology ability of implementing information processing, human-computer interaction and effectively solving problems is also the external technology application ability that college teachers must have in blended teaching.

4   Conclusions

The combination of Internet + and higher education, and the innovation of teaching mode using 5g mobile communication technology, big data, cloud computing and other modern information technologies have been the focus of teaching reform in colleges and universities in China in recent years. However, in the process of teaching practice in colleges and universities, the traditional offline teaching mode still occupies a dominant position, thus delaying its reform and development process. However, the sudden outbreak of COVID-19 forced the extensive application of blended teaching model, which brought a great opportunity for its development. In the context of the current normalization of epidemic prevention, we have entered a post epidemic era. Online teaching needs to gradually become an important part of normal teaching in colleges and universities from an emergency measure. It should use modern information technology to speed up the development of blended teaching mode and gradually deepen the concept of blended learning among college students. However, blended teaching is not a "substitute" or "auxiliary" of traditional offline teaching, but a new teaching mode that can take the advantages of online teaching and offline teaching, to promote, enhance and improve classroom teaching and improve learning effect.

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