Implementation and Consideration of Online Teaching of Physical Education Courses in Chinese Universities Under the COVID-19 Pandemic

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ABSTRACT

This paper studies the implementation of online teaching of physical education courses in Chinese universities under the COVID-19 (Coronavirus Disease 2019) pandemic by means of literature review and other methods. The study holds that the online teaching of sports courses carried out currently in Chinese universities during the pandemic prevention and control period are faced with many problems, such as shortage of physical education curriculum resources, insufficient information literacy of teachers, lack of effective supervision system of students, difficulty in online implementation of regular teaching plan, poor teaching effect, and limited condition of students' home exercise. In line with the theory of education and teaching, based on the teaching characteristics of physical education, this paper makes an in-depth analysis of the above problems, and puts forward targeted countermeasures to optimize the development of teaching resources. It aims to ensure the orderly development of physical education course system and provide a strong guarantee for the completion of the online teaching goal of physical education courses.

Keywords: COVID-19 outbreak, universities, physical education, online teaching

I. INTRODUCTION

The COVID-19 pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-COV-2) is a catastrophic public health event that poses enormous challenges to human society in health, economy, lifestyle and other fields. Tedros, Director-General of the World Health Organization (WHO), pointed out that "novel Coronavirus pneumonia outbreak has become a public health emergency of international concern [1]", which, after assessment, can be classified as "pandemic" [2]. Normally, the virus first enters and infects the lungs and respiratory tissues, but in extreme cases, almost all major organs are negatively affected by the virus infection, which is also the reason for severe systemic organ failure in some patients. Currently, COVID-19 has infected 8.51 million people in more than 200 countries worldwide, causing more than 4.46 million deaths. Unfortunately, there is no effective treatment or specific drugs or vaccines for this disease yet. The development of the pandemic, the global sports, health and sports medicine workers posed great challenges, and also brought great difficulties to university teaching. In response, the Ministry of Education, based on the real situation of the pandemic, issued the "Notice of the Ministry of Education on the Extension of the Spring Semester in 2020". The "Notice" decided to postpone the start of the school year, encourage schools at all levels to use Internet and information education resources to provide strong learning support for students, and ensure that "suspend classes without stopping teaching and learning" [3]. How to ensure the normal development of online physical education has become the top priority in school physical education during the COVID-19 pandemic.

In this paper, 744 core journal articles were collected from CNKI by using the literature method and taking "COVID-19", "online lessons" and "online teaching" as keywords. Through the preliminary reading of literature titles and abstracts, a total of 50 literatures related to this study were selected to provide theoretical support for the study. Xie Youru et al. believe that: "The factors affecting online teaching mainly include 7 aspects: teaching objective, teaching environment, teachers, students, teaching resources, teaching activities and teaching evaluation. [4]" Based on the theory of education and teaching, this paper makes an in-depth analysis of the methods, contents and problems of online teaching in Chinese universities during the pandemic prevention and control period. Focusing on the actual situation and the teaching

characteristics of physical education, it puts forward positive countermeasures to optimize the development of teaching resources, ensure the orderly development of physical education curriculum system, and provides a strong guarantee for the completion of the online teaching goal of physical education curriculum.

II. THE COURSE AND CHARACTERISTICS OF ONLINE TEACHING

A. The course of online teaching

E-learning, also known as distance education and online teaching, generally means that students and teachers carry out distance learning and teaching activities with the Internet as the medium, apply information technology and Internet technology, breaking the time and space restrictions with the help of network courseware, live broadcast, recorded broadcast and other forms. The development of online teaching has been going on for about 20 years since the MIT OpenCourseWare "Program" launched by Massachusetts Institute of Technology (MIT) in 2001 [5]. At present, there are many online education platforms in China, such as Tencent meeting, Rain Classroom, Zhumu, DingTalk, Enterprise WeChat, etc. With the development of the pandemic, such platforms are blooming everywhere.

B. The nature of online teaching

Through reading and studying related literature, it is found that scholars generally believe that online teaching has the following characteristics:

1) Breaking through the limits of time and space: Covering a wide range of areas, Online education services can solve the constraints of time and space with the help of the Internet and intelligent tools. Students can study anytime and anywhere through watching videos over and over again. They can ask questions on the Internet after class when they have anything they can't understand. This makes the whole teaching and learning process have a good continuity, and very convenient for learners to learn in fragmented time.

For students with weak physical education foundation or poor movement coordination, they can watch the teacher's action demonstration video for many times by means of pausing, replaying, replaying and slowing the network videos, etc. This is conducive to moving their psychological barriers of daring not to imitate and are afraid of being laughed at in classroom learning, which can help students to build confidence and make differential teaching possible [6].

2) Extensive educational resources and information sharing: In terms of the use of online teaching resources, teachers can select the best teaching content in the world for transmission, or share the best teachers and teaching results with each class in combination with their own characteristics and advantages, thus ensuring the best use of high-quality curriculum resources. Online education collect all kinds of resources by use of information technology so as to realize information sharing, which greatly reduces the learning threshold and solves the problem of unbalanced resource allocation in education and teaching.

3) The disadvantages of online teaching: It is a problem whether the teacher is competent to make use of modern teaching media or not; the eyesight of children and adolescents will be affected to different degrees; there are also some problems, such as uneven learning efficiency, lack of interaction in class and t is a test for students' self-consciousness of learning.

While the above advantages and disadvantages are mostly based on the teaching methods of theoretical subjects in universities and primary and secondary schools, there are few researches on online teaching of physical education from the perspective of theoretical teaching. There is a lack of clear analysis and guidance of the online teaching of physical education related research in terms of research literature. There are few researches on online teaching of physical education, which need further research and application.

III. THE MAIN PROBLEMS AND COUNTERMEASURES OF ONLINE TEACHING OF COLLEGE PHYSICAL EDUCATION

A. There is a shortage of resources for college sports courses

Since 2012, Massive Open Online courses (MOOCS) in Chinese universities gradually became the mainstream platform for students to learn online. During the pandemic, the Ministry of Education issued the "Guidance on The Organization and Management of Online Education in Institutions of Higher Learning during the Pandemic Prevention and Control Period". "In order to solve the online courses in colleges and universities teaching resources, to achieve 'suspending school without stopping teaching and learning", on February 2, 2020, 22 online course platforms were organized, the diversified online teaching solutions were developed and more than 24,000 online courses such as national high-quality goods were open for free, covering 12 disciplines, 18 major categories in higher vocational colleges, for colleges and universities to choose to use [7]. These courses almost cover all the basic courses, core courses and main courses offered by colleges and universities. However, the content of college students' physical education curriculum

includes all categories from competitive sports to physiology, psychology, leisure, traditional health preservation, etc. The uniqueness of physical education discipline determines that physical education curriculum includes not only theoretical courses, but also technical courses. Technical courses are still offered mainly in the method of "gathering together" featuring face-to-face and hand-in-hand" in conventional teaching in China. Moreover, college physical education curriculum includes dozens of sports programs, if all of which implement online teaching, course resources are obviously insufficient for selection and application. The shortage of systematic and high-quality online education resources is the biggest bottleneck restricting the development of online teaching of physical education.

Therefore, some online course resources have been developed by college teachers in response to emergencies in China. Although teachers are affected by venues and the limited production conditions at home, some colleges and universities still launch teaching videos of basic sports technology with excellent production, such as "hand movements" and "foot movements" of certain projects. Although having problems such as relatively lack of layout design according to local conditions and lack of pertinence, etc., these short-term emergent works solve the problem of online physical education resources shortage well.

B. Discussion on online teaching and offline teaching — the teachers' information literacy is insufficient

"Suspending school without stopping learning" is easier said than done. In form, online teaching is very different from offline teaching carried in classroom (or laboratory). For teachers, there is no familiar lectern or face-to-face teaching atmosphere in on-line teaching, and smart devices such as laptops and mobile phones are used. However, for teaching itself, the two teaching methods are highly consistent in information communication and transmission, setting of teaching objectives, risk identification in the teaching process, and closed-loop control of teaching, etc. — both online and offline teaching are student-centered teaching activities.

The full implementation of online teaching during the pandemic has posed a challenge to teachers' group information literacy. Most of the teachers of sports events teach in the form of explaining and demonstrating movements to students face to face in sports venues. For the new teaching form of online physical education, there is a general lack of basic network knowledge such as operation processing of picture, video and recording screen software, showing that teachers' information literacy of online teaching is insufficient. Under this new form of teaching, facing the bad situation in which "teachers vary widely in their

ability to teach online, generally lack online teaching experience and cannot quickly adapt to and give play to the advantages of network technology [8]", teachers have risen to the challenge, familiarize yourself with and adapt to the online course formats, teaching tools and classroom organization. It is necessary to have effective tools to do good work. In order to make a good online course, some teachers have taught themselves the animation technology in Crazy Talk , hand painting in Easysketch Pro, Pr, Format Factory, Adobe Presenter Video Express, Hi Ge Shi, Wordle, MindMaster and other software, striving to become the "hard core" of online teaching.

C. Lack of effective supervision in online education, resulting in poor teaching effect

Teaching effect is the ultimate rating indicator for online courses. In the process of online teaching, teachers are unable to supervise and manage students face to face, which leads to problems such as students' greater freedom in learning and poor self-discipline. It is very common to learn without self-discipline when in online learning, and some teachers think that online teaching is worse than offline teaching. Therefore, teachers try their best to improve the teaching effect, through the comprehensive application of various teaching means and software to enhance the fun in classroom and improve students' interest in learning. In the circumstance where teachers and students don't meet each other face to face, in order to ensure that the quality of teaching is not reduced, teachers continue to explore and have found an effective solution. This project adopts the combined online teaching scheme and implements effective control. The main links in the implementation process of the project include: first, the course SPOC, which is built on the Chaoxing platform, is taken as the base, supplemented by relevant resources such as the national open courses; then, Adobe Presenter Video Express + Xuexitong are used to interact with students through discussion, check-in and "red envelope lucky draw", etc. In terms of the presentation mode of the teaching content, the teaching content is fragmented and "flipped", allowing students to study with problems and often leaving students in a sense of "tension" in learning.

The online teaching content of postgraduates of physical education is quite different from that of undergraduates of physical education. Because postgraduates have a certain understanding of basic knowledge, the online teaching content of postgraduates is higher than that of undergraduates, and endow postgraduates with the cultivation of scientific research thinking and innovation ability. Teachers have used PubMed database and foreign sports medicine websites to improve students' English reading ability and recommend open online courses for domestic experts in this field, so as to provide students with as

many resources as possible, help them develop the habit of scientific research and broaden their knowledge career. In the homework link, teachers added the link of practical operation, requiring students to upload their own practical operation photos or videos within a specified period of time. In the course of online teaching, teachers make full use of the advantages of Internet technology to encourage students to speak actively and participate in the teacher-student and student-student interaction. Finally, a shared curriculum co-created by teachers and students is realized, which ensures that the quality of online teaching is not reduced, or even beyond the offline teaching effect, and the students change from the passive learning to active learning.

D. Real attendance is key to online classes

In online teaching, students must attend classes physically and mentally, as true attendance is key to online courses. Although it is effective for teachers to carry out check-in before class or give red envelopes, these methods only present students' physical attendance but don't reveal their real learning state, which is just a palliative. To solve this problem, teachers have adopted the most traditional method of classroom questioning, in which students are called to answer questions at random in class. This method can not only restrain the students to be in position and listen attentively, but also give feedback about teaching effect.

E. Students' skill learning is restricted by home conditions

Since the outbreak of the pandemic, under the leadership of the CPC Central Committee, Wuhan has been "closed down", with entertainment venues suspended, stadiums, libraries and other gathering places have been shut down one after another, and all parts of the country and all units working together to prevent and control the pandemic. Residents tried their best to avoid going out at home as much as possible. Students at home reported their body temperature and health status every day. The conditions and venues for going out for exercise were limited. Students' activity space in the home environment was relatively small, and the scope of activity was limited to the living room, study, bedroom, corridor, balcony or small courtyard. The lack of professional venues and equipment and the limited activity space have seriously affected the normal development and application of teaching programs, contents and practice methods. Many students reflect their doubts about the skill learning of specific PE courses through different channels and ways, believing that they cannot accurately master precise skills and movements. Such doubts have different degrees of influence on students' attitude towards online learning.

IV. REFLECTION ON THE IMPLEMENTATION OF ONLINE TEACHING OF PHYSICAL EDUCATION

A. The charm of online courses lies not in the teacher but in the interaction between teachers and students — it's important to get a thing right at the end

Since online teaching is a concrete embodiment of the "student-centered" teaching philosophy, teachers should give full play to the advantages of online teaching, actively interact with students and increase their participation in learning in the process of teaching through the Internet. In the teaching process, it is urgent to solve the problems of how to carry out interactive teaching with students, how to detect whether students are "really online", how to stimulate students' interest and how to monitor students' learning status. Although there are a variety of ways, such as microphone connection, asking for pre-emptive answers, etc., they cannot replace the real-time interaction in face-to-face teaching after all. So, this is still worth pondering.

At the end of an online course, the teacher must remind the students in time to review the past and learn from the new, organize the in-class study notes and send them to the designated email address in time. From the perspective of classroom management, this is the last loop of closed-loop management.

B. Preview is the premise of effective advance of online courses

One week before each class, the teacher can inform the students about the previewing course content and knowledge points through the teaching software such as Xuexitong, observe the students' learning progress through the background data, and timely warn the students who have not finished the previewing. In this way, an effective preparation and supervision system has been established, and effective preparation of students can provide a strong guarantee for the advancement of the course.

C. Giving full play to students' subjective initiative

Online education is not only a challenge to students' learning ability, but also provides thought for teachers to use subject knowledge to promote students' learning and give play to students' subjective initiative. In online teaching, teachers can take some steps back by providing resources and approaches for students to refer to, and give students more freedom to conduct self-exploration, find problems and seek help from resources around them, so as to improve their ability to solve problems independently. Online teaching provides a mirror for teachers to reflect on their daily teaching. Through this mirror, they can compare the similarities and differences between daily teaching and online teaching, and give full play to the broad spatial advantage of the Internet. They can take this

opportunity to cultivate students' media literacy, distinguish between "opinion" and "fact", identify the authenticity of information, judge reliable information channels, reflect academic integrity in homework, etc.

V. CONCLUSION

With the maturity of Internet technology, the teaching mode of online teaching develops rapidly. In the context of COVID-19, online teaching provides new opportunities and challenges. The online education of physical education courses has its unique advantages, but it also has obvious disadvantages and thus cannot replace the traditional offline education. The effective supervision system and the standards quality evaluation system of online education of physical education courses also need to be explored and solved urgently. In order to ensure the quality of education and achieve higher teaching effect, the combination of online education and offline education has gradually become a trend.

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