

ONLINE SPORTS EDUCATION FOR COLLEGE STUDENTS DURING COVID-19



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ENSINO ON-LINE DE ESPORTES PARA ESTUDANTES UNIVERSITÁRIOS DURANTE A COVID-19

ENSEÑANZA EN LÍNEA DE DEPORTES PARA UNIVERSITARIOS DURANTE EL COVID-19

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ABSTRACT

Introduction: There were difficulties in teaching online courses during the COVID-19 period, mainly due to the particularities of sports, requiring activities and physical training for good use. **Objective:** Explore the design of the online university physical education curriculum and the home exercise requirements of university students during the COVID-19 incidence. **Methods:** We adopted the form of questionnaires and experiments for 544 students and 5 professors volunteering for the investigation. The questionnaires were graded, and statistically analyzed the data obtained from the questionnaire. **Results:** The investigation shows that 40.26% of college students exercise between 60 to 90 minutes, 23.53% between 30 to 60 minutes, 21.51% between 90 to 120 minutes, and 10.48% between 0 to 30 minutes daily. Only 4.23% of college students reported exercising for more than 120 minutes daily. In addition, the impacts of exercising with online teaching are better than the procedure seen in students with independent exercise. **Conclusion:** Physical education teachers should adapt student-related home sports programs according to the actual needs of the local situation and equipment arrangement so that college students are not limited in their home environments, improving the teaching effect in online college physical education courses. **Level of evidence II; Therapeutic studies - investigation of treatment outcomes.**

Keywords: COVID-19; Education, Distance; Physical Education and Training; Quarantine.

RESUMO

Introdução: Houveram dificuldades no processo de ensino de cursos on-line durante o período da COVID-19, principalmente devido às particularidades do esporte, exigindo atividades e treinamentos físicos para um bom aproveitamento. **Objetivo:** Explorar a concepção do currículo de educação física universitária on-line e as necessidades de exercícios em casa pelos estudantes universitários durante a incidência do COVID-19. **Métodos:** Adotou-se a forma de questionário e experimentos, respectivamente, para 544 estudantes e 5 professores voluntários à investigação. Os questionários foram classificados e analisou-se estatisticamente os dados obtidos a partir do questionário. **Resultados:** Os resultados da investigação mostram que 40,26% dos estudantes universitários se exercitam entre 60 a 90 minutos, 23,53% entre 30 a 60 minutos, 21,51% entre 90 a 120 minutos, e 10,48% entre 0 a 30 minutos diariamente. Apenas 4,23% dos estudantes universitários informaram exercitarem-se por mais de 120 minutos todos os dias. Além disso, os impactos pelo exercício com o ensino on-line são melhores do que o procedimento verificado nos estudantes com exercícios independentes. **Conclusão:** Os professores de educação física devem adaptar os programas de esportes domésticos relacionados aos estudantes de acordo com as necessidades reais da situação e da disposição de equipamentos locais, para que os estudantes universitários não se limitem em seus ambientes domésticos, melhorando o efeito de ensino nos cursos de educação física universitária on-line. **Nível de evidência II; Estudos terapêuticos - investigação dos resultados do tratamento.**

Descritores: COVID-19; Educação à Distância; Educação Física e Treinamento; Quarentena.

RESUMEN

Introducción: Hubo dificultades en el proceso de enseñanza de los cursos en línea durante el período de COVID-19, principalmente debido a las particularidades de los deportes, que requieren actividades y entrenamiento físico para un buen uso. **Objetivo:** Explorar el diseño del plan de estudios de educación física universitaria en línea y las necesidades de ejercicio en casa por parte de los estudiantes universitarios durante la incidencia del COVID-19. **Métodos:** Se adoptó la forma de cuestionario y experimentos, respectivamente, para 544 alumnos y 5 profesores voluntarios para la investigación. Se calificaron los cuestionarios y se realizó un análisis estadístico de los datos obtenidos con el cuestionario. **Resultados:** Los resultados de la investigación muestran que el 40,26% de los estudiantes universitarios hace ejercicio entre 60 y 90 minutos, el 23,53% entre 30 y 60 minutos, el 21,51% entre 90 y 120 minutos y el 10,48% entre 0 y 30 minutos diarios. Sólo el 4,23% de los estudiantes universitarios declararon hacer ejercicio durante más de 120 minutos al día. Además, los impactos por el ejercicio con enseñanza en línea son mejores que el procedimiento verificado en los alumnos con ejercicios independientes. **Conclusión:** Los profesores de educación física deben adaptar los programas de deportes en casa de los estudiantes según las necesidades reales de la situación y la disposición local de los equipos, para



Descriptores: COVID-19; Educación a Distancia; Educación y Entrenamiento Físico; Cuarentena.

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INTRODUCTION

The outbreak of covid-19 has disrupted the teaching plans of many colleges and universities. The sudden epidemic has forced students to carry out relevant online teaching at home. Therefore, at present, online classes have become a main teaching content of college students.¹ With the gradual development of course networking, many courses have obtained good network experiments, but there are still some courses due to many restrictions, so the development of online teaching is relatively slow, among which physical education is a difficult subject.² Physical education teaching requires students to complete certain sports activities with the help of relevant venues and some equipment under the guidance of teachers. However, under the background of networking, students are often independently or passively isolated in their own houses, rental houses and dormitories. The unified feature of these areas is that the area is relatively small and the equipment is insufficient. Running and jumping, basketball, football and other ball games commonly seen in physical education teaching cannot be carried out.³ Therefore, during covid-19, the development of physical education curriculum in online universities has had a great impact. However, for college students, with the normalization of covid-19 epidemic prevention and control, they gradually realize the importance of physical health to individuals.⁴ Therefore, home sports has become a popular trend. In addition to the online physical education courses provided by the school, college students will complete relevant home sports through various forms, such as webcast, APP punch in and so on, to maintain good condition and prevent diseases caused by long-term inactivity.⁵ In order to further explore the situation of online college physical education courses and home sports during covid-19, this paper uses the way of questionnaire survey, consulted 5 teachers and 544 students, and investigated the relevant current situation, so as to provide a certain reference basis for the teaching guidance of home physical education in Colleges and universities.

METHOD

The main method used in this study is questionnaire survey. Before that, in order to understand the online college physical education curriculum and home sports during covid-19 as much as possible, this paper also uses the methods of literature review and interview. The study and all the participants were reviewed and approved by Ethics Committee of Hebei University(NO.2020HBUI-0119). Firstly, through the paper or electronic materials provided by HowNet, Wanfang, library and other platforms, this paper analyzes the relevant contents, including physical education courses, network teaching, physical exercise demand during the epidemic, etc., so as to accumulate a certain foundation. Then, through the interview method, face-to-face interviews were conducted with 5 teachers and 10 students to analyze their physical education teaching, physical education learning and home sports during covid-19, so as to have a more understanding of the situation to be investigated in this paper and facilitate the design of questions and the setting of options. The teacher's questionnaire was in the form of face-to-face interview. After the interview, he was asked to fill in. A total of 5 questionnaires were distributed and 5 questionnaires were obtained, with an effective rate of 100%.

In terms of the distribution and recovery of students' questionnaires, due to the excessive number of students and the current state of home isolation, the distribution and recovery of questionnaires are carried out through the form of network, using the relevant online class wechat group and home sports and fitness punch in group. A total of 545 questionnaires were obtained. After excluding an invalid questionnaire, 544 valid questionnaires were obtained. The data were entered, sorted and analyzed.

RESULTS

College physical education network curriculum design during covid-19

In terms of college physical education curriculum design, choose to communicate with front-line physical education teachers. This paper discusses and analyzes the selection of courses and the key points in the teaching process, as shown in Figure 1 and Table 1. As shown in Table 1, the subject selection of college physical education online courses is shown. It can be seen from the table that during covid-19, due to the influence of venues and equipment, physical education online teaching shows the following characteristics: first, the proportion of theoretical and written teaching has greatly increased, and teachers consciously reduce the sports teaching that can not achieve certain results due to venue restrictions and turn to physical education theory teaching, So that physical education can also fit the static characteristics of network teaching and achieve a certain teaching effect. In addition, sports that can be carried out without a large field, such as

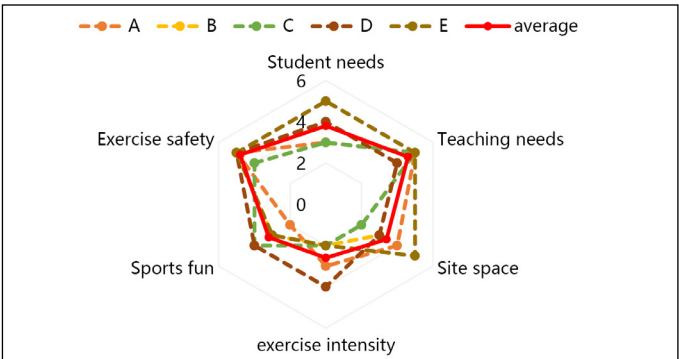


Figure 1. Key points of college physical education network curriculum design.

Table 1. Subject selection of College Physical Education Network Course.

Course type	Remark
Sports theory	Sports physiology, sports psychology, biomechanics, sports and health care
Sport Dance	Latin dance, fast -moving dance
Gymnastics	Freedom gymnastics and some gymnastics movements of the venue equipment
Track and field	Direct long jump, running in place, etc. on the site equipment, etc.
Physical training	Aerobic exercise and anaerobic exercise with low requirements for venue equipment
Ball game	Table tennis balls, badminton swing, etc.

Latin dance, some gymnastics, in-situ running and jumping, aerobic exercise and so on, have become the focus of sports action teaching. There are also some activities that require simple equipment and do not have high restrictions on the venue, such as the toss in table tennis, the swing in badminton, etc. the students who choose the course often have relevant equipment, and the scope of activities can be limited to a small space. Therefore, it is also widely welcomed by students and has become a common material selection for physical education online teaching.

It can be seen from the results in Figure 1 that the most important thing for PE teachers is sports safety. Any activity is carried out on the premise of ensuring the safety of students. If there is a teaching accident, it will have a very bad impact on teachers and schools. The second is the demand of teaching. Teachers must carry out the curriculum design according to the teaching plan, and each course should gradually achieve a small goal in the teaching plan. The third is the needs of students. However, due to the existence of teaching plans, although teachers will meet the needs of students to the greatest extent, students' needs are still a reference rather than a decisive role in curriculum adjustment. As for the venue space, because students are isolated in different areas, some can be carried out on the roof or in their own yard, some can be carried out in relatively spacious bedrooms or living rooms, and some students can only carry out with other roommates in the narrow space of the dormitory, there are many restrictions on the venue space. In addition to the compromise method, it is difficult to take into account the actual situation of all students, Therefore, its score is relatively low. As for the sports interest and intensity, it cannot be effectively considered in the current online sports course teaching, which is also the place that needs to be supplemented and optimized at this stage.

Students' access to home sports network resources during covid-19

Figure 2 shows the resource demand of college students for home sports during covid-19 period. It can be seen from the figure that the resource most needed by college students is sports health, which is also related to the improvement of people's health awareness under the current covid-19 background. The second is fat reduction and shaping, which shows that many college students have an increase in body fat rate due to lack of exercise at home. Therefore, effective home exercise is needed to reduce body fat rate and maintain body shape. The third is skill teaching. Many college students say that some sports rules are more complex. In daily study and life, it is difficult to have enough time and patience to master all their rules and sports skills one by one. Covid-19 has enough time at home, so it can involve more boring skill teaching, so as to lay a certain foundation for subsequent outdoor sports activities. The fourth demand is muscle building, and the score of this part is lower than that of fat reduction, because the teaching of muscle building often depends more on certain fitness facilities, which is relatively difficult in the process

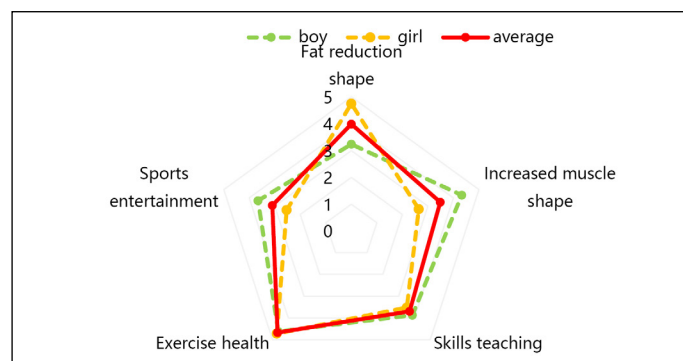


Figure 2. College Students' demand for home sports resources.

of living at home. For boys, the highest demand is sports health, followed by muscle building, skill teaching, sports entertainment and fat reduction. For girls, the first is to reduce fat and shape, the second is sports and health, the third is skill teaching, the fourth is to increase muscle and shape, and the fifth is sports and entertainment. The difference of resource demand between men and women is also related to their different sports concepts.

As shown in Table 2, it is the source of network resources for college students' home sports. It can be seen from the table that the source of resources is relatively rich, and the society, the government and the campus provide a large number of sports resources. Students can choose the appropriate resource platform according to their actual needs and basic situation, so as to make home sports more scientific and planned.

College Students' home sports during covid-19

As shown in Figure 3, the daily cumulative home exercise hours of college students are shown. It can be seen from the picture that 40.26% of college students exercise 60-90min every day, 23.53% of college students exercise 30-60min every day, 21.51% of college students exercise 90-120min every day, 10.48% of college students exercise 0-30min every day, and 4.23% of college students exercise more than 120min every day. This shows that the current college students' daily home exercise can basically maintain a good range, which can well adjust the negative physical and psychological effects of home closure on college students.

Figure 4 shows the intensity statistics of College Students' home exercise. From the picture, it can be seen that 40.26% of College Students' home exercise intensity is "slightly sweating", 23.53% of College Students' home exercise intensity is "sweating", 21.51% of College Students' home exercise intensity is "hot and not sweating", 10.48% of College Students' home exercise intensity is "exhausted", and 4.23% of College Students' home exercise intensity is "unchanged". This shows that college students can reasonably control the exercise intensity at home according to their physical condition, exercise situation and actual needs, so as to obtain better exercise effect.

DISCUSSION

It can be seen from this paper that there is a one size fits all form in the current network physical education teaching, and different students

Table 2. Source of College Students' home sports network resources.

Source of resource	Remark
Live APP	Personal "cloud belt training" or official sports live program
Sports app	Recorded curriculum resources can be repeatedly trained
Entertainment sports game	Use VR technology to combine games with home movements
Graphic resources	Action teaching posts in forums, websites, and public accounts
Online lesson teaching category	The one -to -one -line private education and other online class resources purchased
Other	Volunteer group chat or friends' teaching and other non -public resources

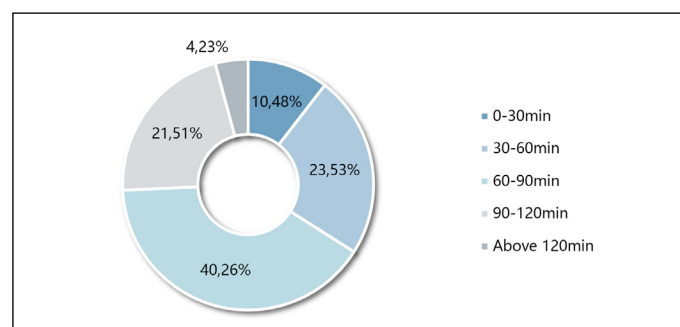


Figure 3. College Students' daily accumulated exercise hours at home.

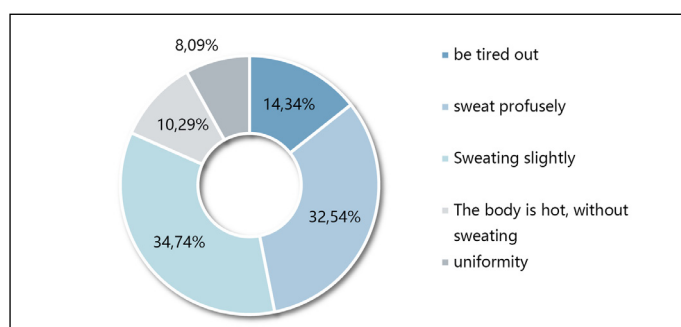


Figure 4. Exercise intensity of college students at home.

have different physical education basic conditions and venue conditions. However, when designing online physical education curriculum, the traditional curriculum classification method is still retained, that is, it is divided through different sports items. Therefore, there will be a mismatch between students' needs and the current situation. Through investigation and research, this paper puts forward the optimization method of "segmented" physical education teaching, and turns the division standard of physical education curriculum from traditional subjects to the actual situation of college students. For example, the traditional sports classes are divided into track and field class, table tennis class and volleyball class. Although this classification can enable students to choose appropriate sports according to their hobbies, it ignores the students' environment. Therefore, this paper suggests that the class classification of physical education courses should be changed into three major categories: large area, medium area and small area. Each major category also includes multiple branches such as aerobic exercise, skill teaching and muscle strengthening and shaping. Students can choose more suitable classes according to their own site conditions and sports needs. Physical education teachers can also choose their own classes according to the site conditions of students in the selected classes, Provide more targeted exercise plans and methods. For example, for students who have courtyards or can move freely in the community, their scope of activities is large, and the infrastructure is relatively rich. Some simple ball games can be displayed without obstacles. Therefore, their physical education teaching is less limited and the teaching content is broader. For students with small indoor area or isolated at home in

the dormitory, their scope of activities is very small and often can only be carried out in situ. Therefore, when teaching this part of students, it is necessary to purposefully choose projects with less requirements for venues and equipment, so that they can also have better sports effect during closed isolation.

This "segmented" physical education teaching reduces the one size fits all provision of curriculum resources under the traditional physical education class division mode, makes the teaching more targeted, and can meet the actual needs of students in different situations, so as to improve students' sports enthusiasm and sports science, ensure sports safety, and then improve the teaching effect of covid-19 network physical education at home.

CONCLUSION

From the research of this paper, it can be seen that during covid-19 home, college students' online physical education courses and home sports have become an important branch of teaching work. For the current overall home sports situation, there is a slight disconnection between resources and needs. College students can not complete some relatively difficult sports activities well due to the limitations of venue area and their own sports ability. Therefore, although the government, society and schools have provided a lot of sports resources, due to the lack of relevant guidance, college students have free resources and can not carry out home sports in a planned way according to their actual situation. This requires effective guidance from physical education teachers. For example, in the process of teaching design, more consideration should be given to the basic conditions of college students in different home environments, and a variety of sports plans should be designed purposefully, so that students can choose according to their own actual situation and obtain better sports results.

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