

Feasibility Study on the Introduction of Air Volleyball into Public Physical Education Courses in Universities in Chongqing from the Perspective of Sports-Education Integration

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Abstract: With the popularization of fitness-for-all activities and the deepening of physical education curriculum reforms in higher education, exploring diversified and distinctive physical education courses has become crucial for enhancing students' physical health and meeting different needs. This study adopts three research methods: literature review, questionnaire survey, and field research to analyze the current status of public physical education course content in Chongqing universities, the age structure of participants in air volleyball, the density of competition organization, and the atmosphere of implementation. It also conducts a comprehensive evaluation based on factors such as technical difficulty, difficulty in venue and equipment construction, and policy support. The study finds that air volleyball has a low technical threshold, low equipment requirements, and is easy to popularize, making it accessible to participants with a relatively older age structure. Currently, there are many older participants in air volleyball, which also confirms its characteristic of being easy to access. This characteristic of air volleyball naturally applies to young people, whose learning abilities are generally stronger than those of middle-aged and elderly people. However, the content of public physical education courses in Chongqing universities, which are mainly targeted at young people, is highly homogenized. Considering the level of policy support, this study believes that introducing the easily accessible air volleyball project into public physical education courses in Chongqing universities is highly feasible, as it can inject new vitality into university physical education and promote the healthy development of students' physical and mental health.

Keywords: Public Physical Education Class, Air Volleyball, Feasibility Study, Physical Education Curriculum Reform.

1. Foreword

With the introduction of the "Opinions on Deepening the Integration of Sports and Education to Promote the Healthy Development of Youth", the reform of physical education courses in universities has become an important lever for achieving the "Healthy China" strategy^[1]. As a highland of education in western China, Chongqing currently has 73 universities, including comprehensive universities, colleges of science and engineering, normal universities, and professional schools. Through investigation, it is found that the content of public physical education courses (hereinafter referred to as "public PEcourses") in universities in Chongqing is relatively similar, showing a certain degree of homogeneity. These mainly include traditional sports such as basketball, volleyball, football, table tennis, and badminton, as well as fitness-oriented courses such as aerobics and Tai Chi^[2]. The high technical threshold of traditional sports and the lack of interest in fitness courses make it difficult to meet students' personalized needs, restricting the mutual improvement of students' interest in sports and health levels. Therefore, exploring and introducing new sports, especially those that are easy to popularize and have strong appeal, is crucial to breaking the limitations of existing public PE courses.

As an emerging sports event, air volleyball possesses strong entertainment and competitive fitness characteristics, suitable for people of different ages, genders, and skill levels. Furthermore, it has fewer restrictions on personnel, venues, and rules, making it an excellent choice for college students

for entertainment, fitness, sports, and viewing^[3]. Introducing air volleyball courses into public physical education classes in universities in Chongqing can not only enrich the course content and increase students' interest in physical exercise, but also align with the "full participation" concept advocated by the integration of sports and education due to its simplified rules and low entry threshold. Its team collaboration attributes can strengthen students' social adaptability, which is in line with the core goal of quality education. This has positive significance for promoting the construction of campus sports culture and improving students' overall quality.

Based on this, this study aims to explore the feasibility of introducing air volleyball into public physical education classes in universities in Chongqing. By analyzing the sports characteristics of air volleyball and its development in Chongqing, combined with relevant policy support, it provides a reference for the reform of physical education in universities in Chongqing, with the hope of providing theoretical basis and practical guidance for the innovative development of public physical education classes in universities in Chongqing.

2. Current Development Status of Air Volleyball in Chongqing

2.1. Age Structure of Participating Population

Through investigation, it has been found that air volleyball, as a sport suitable for people of all ages, has developed rapidly in Chongqing in recent years, with the number of participants continuously expanding. However, the age structure of

participants exhibits a significant imbalance, mainly concentrated in the middle-aged and elderly groups over 40 years old. This phenomenon is closely related to the characteristics of air volleyball, such as moderate intensity, minimal impact on the body, and low risk of injury. For example, through on-site observation of community air volleyball activities in Yuzhong District and Jiangbei District of Chongqing, it was found that the proportion of middle-aged and elderly participants exceeded 70%. They exercise their bodies and enrich their leisure lives through air volleyball, forming a stable group of participants. In contrast, the participation of young people, especially college students, is relatively low. Except for a small number of students majoring in physical education in some universities, most students have limited understanding and participation in air volleyball. This phenomenon indicates that there is still considerable room for the popularization and promotion of air volleyball among young people, providing potential development space for the promotion of air volleyball in universities.

2.2. Competition Organization Density

By reviewing relevant sports competitions and reports in Chongqing in recent years, it is evident that the organization of sports competitions in Chongqing is quite dense. Various large-scale sports events, such as the 7th Chongqing Games and the 13th Chongqing National Fitness Games, are frequently held, and the air volleyball event is always included in these games. In addition, Chongqing holds the "Shancheng Cup" air volleyball league every year, which attracted 192 teams to participate in 2024. Yubei District has established the "Night Market Air Volleyball" brand, hosting nighttime competitions at rooftop courts in commercial complexes such as Longhu Ziducheng, attracting up to 5,000 spectators per match. In universities, some institutions with physical education majors often organize student exchange matches for air volleyball, while students from other majors have relatively low participation. From the existing competition activities, it can be seen that air volleyball sports show a good development momentum and positive participation atmosphere in universities.

2.3. Create a Good Atmosphere

By consulting the general survey report on fitness facilities of the Chongqing Municipal Bureau of Sports, it is found that there are currently 217 dedicated air volleyball venues in Chongqing, achieving full coverage in 38 districts and counties. Among them, the embedding rate of community sports parks is as high as 63%, and the proportion of venues owned by enterprises and institutions is 22%, forming a construction standard of "prioritizing planning in prime urban areas and mandatory supporting facilities in newly built communities"^[4]. The high coverage rate of air volleyball venues in Chongqing has fueled the enthusiasm of the public for participating in air volleyball, creating a strong atmosphere for the sport. In addition, air volleyball has formed a linkage model among families, communities, and schools in Chongqing, making it a unique "intergenerational social currency" in the city. According to a survey conducted by the Chongqing Bureau of Statistics in 2024, air volleyball ranks third among "common sports activities for families in Chongqing" (accounting for 19.7%), second only to square dancing and mountain climbing^[5]. This fully demonstrates that the air volleyball sport is thriving in Chongqing and has

become an important part of the city's fitness activities for all. This favorable atmosphere has created favorable conditions for introducing air volleyball into universities, facilitating interaction between classroom and extracurricular activities, stimulating students' interest in participation, and promoting the promotion and development of air volleyball in universities.

3. Feasibility Analysis of Air Volleyball in Public Physical Education Classes in Colleges and Universities

3.1. The Alignment between Sports Characteristics and the Needs of Universities

As a team net-separated sport, air volleyball is characterized by its ease of learning, simple rules, strong entertainment, and high safety, making it highly suitable for promotion as a campus sports activity^[6].

From the perspective of technical difficulty, compared to hard volleyball, air volleyball has lower technical requirements, with softer materials, lighter ball weight, slower ball speed, higher safety, and lower net height, which reduces the difficulty of attack and defense in the game and makes it easier to get started. Students can master basic skills and participate in the game in a relatively short period of time. This is particularly important for non-sports majors in universities, as it lowers the learning threshold and increases the possibility of participation. From the perspective of participation demand, air volleyball, as a team sport, is conducive to cultivating students' cooperation ability, reducing loneliness, and satisfying spiritual needs. Therefore, promoting air volleyball in universities can further improve students' physical fitness and promote their physical and mental development^[7]. From the perspective of students' physical fitness, air volleyball can adapt to most students' physical abilities, effectively improving their physical fitness while also satisfying their spiritual needs, shaping a graceful body shape, and making their body more symmetrical. From the perspective of teacher teaching, air volleyball is easy to teach, can better ensure students' personal safety during class, and can enhance students' interest in learning. At the same time, the development of air volleyball courses can enrich school curricula, improve the quality of school physical education, and better achieve the goal of enhancing students' physical fitness and cultivating qualified talents for the country.

Therefore, the development of air volleyball is in line with the trend of students, teachers, schools, and society, making it a very suitable sport to be carried out in public physical education classes.

3.2. Policy and Resource Allocation Support

Policy support is one of the important factors driving the development of air volleyball in universities^[8]. The "National Fitness Program (2021-2025)" clearly states the promotion of "special sports suitable for different groups of people", and air volleyball, which combines competitiveness and entertainment, is listed as a key promotion project^[9]. The Chongqing Municipal Sports Bureau emphasizes in the "Implementation Opinions on Deepening the Integration of Sports and Education to Promote the Healthy Development of Youth" the promotion of emerging sports into schools,

providing a policy basis for the introduction of air volleyball courses. The country and Chongqing have successively issued a series of policy documents to promote the development of national fitness and school sports, providing strong support for the reform of physical education in universities in Chongqing^[10]. The Chongqing Municipal Education Commission has also actively promoted innovation in university physical education courses and encouraged the introduction of emerging sports. These policies have created a favorable institutional environment for the introduction of air volleyball courses in universities.

Compared to traditional volleyball, the construction cost of the venues and equipment required for air volleyball is relatively low, making it an economical and practical choice for university sports departments with limited budgets. A flat venue, a net, and a ball are all that is needed to conduct activities. According to surveys, existing gymnasiums or outdoor volleyball courts in universities in Chongqing can be slightly modified for air volleyball training and competitions. In addition, regarding teaching resources, most teachers in universities in Chongqing are not specialized in air volleyball, which is slightly insufficient compared to other sports. Therefore, universities can introduce social resources through methods such as "school-enterprise cooperation". For example, the air volleyball team in the Economic Development Zone has successfully guided multiple primary and secondary schools in teaching by hiring professional coaches and conducting volunteer training. Universities can also cooperate with local clubs to establish a teacher sharing mechanism. Therefore, from the perspective of policy and resource allocation, it is completely feasible for universities to introduce the air volleyball project.

Based on the above analysis, it is highly feasible to introduce air volleyball into public physical education classes in universities in Chongqing. The characteristics and advantages of air volleyball align closely with the goals of physical education in universities, providing students with new sports options and enriching campus sports culture. At the same time, the favorable atmosphere and policy support for the development of air volleyball in Chongqing create favorable conditions for introducing this sport into universities. Therefore, it is recommended that universities in Chongqing actively explore the introduction of air volleyball courses, develop scientific teaching plans, cultivate professional teachers, improve venue facilities, and gradually incorporate air volleyball into the public physical education curriculum system, injecting new vitality into the reform of university physical education.

4. Challenges and Countermeasures

4.1. Main Challenges

4.1.1. Lack of Professional Teachers for Air Volleyball

In the field of air volleyball in universities, there is a shortage of air volleyball teachers, and the position is mainly taken up by teachers of other ball games. As a popular new sports event, air volleyball does not have mature teaching concepts and referential classroom content like traditional sports events (basketball, football, track and field, etc.)^[11]. This results in teachers only introducing relevant knowledge and skills of air volleyball to students in the teaching content, lacking exploration of the cultural value of air volleyball.

4.1.2. Low Level of Attention

With the continuous development and reform of

educational models, theoretical events are also evolving and improving within the educational system. However, many schools place relatively low emphasis on physical education. In curriculum design, social skills courses and physical education courses do not receive sufficient attention to activity-based teaching, and physical education time is reduced, which has a negative impact on the comprehensive development of education^[12].

4.1.3. Insufficient Popularization in Universities

In physical education classrooms, despite the considerable potential for the promotion of air volleyball, the relatively short history of this sport has limited the understanding and recognition of its promotion in the field of school sports^[13]. Currently, many universities have not fully recognized the importance of promoting air volleyball, resulting in a relatively lower level of popularity compared to traditional sports in university physical education. The lack of sufficient recognition and influence of air volleyball courses has hindered its promotion in the field of public physical education courses in universities.

4.1.4. Lack of Venue Facilities

Facilities are the foundation for ensuring teaching quality. If universities want to offer air volleyball sports courses, the availability of air volleyball courts and equipment is a prerequisite. Under current conditions, universities have limited indoor sports venues, mostly focusing on basketball and badminton. Although air volleyball has lower requirements for venues, its large size and light weight make it susceptible to weather conditions. Ideally, air volleyball is most suitable for activities in indoor sports venues.

4.2. Implementation Path

4.2.1. Strengthen Publicity and Promotion

Compared to primary and secondary schools, universities have closer ties with society. Although air volleyball is not truly popularized in universities, it is well-developed at the level of mass sports in Chongqing. Universities can create a positive sports atmosphere by organizing on-campus competitions, air volleyball festivals, and other activities. They can utilize campus media and social platforms such as Douyin short video platform, QQ, and WeChat for promotion, allowing students to understand air volleyball and encouraging them to participate and share their air volleyball experiences. In addition, schools can establish air volleyball clubs or sports teams to expand the learning community of the air volleyball program. By participating in competitions, students can cultivate their enthusiasm for air volleyball, accumulate experience, exchange and learn with other school air volleyball teams, enhance teachers' and students' understanding of air volleyball, and increase their participation enthusiasm in the program.

4.2.2. Improve Teacher Development

In order to effectively promote air volleyball, universities in Chongqing should strengthen professional training for physical education teachers in air volleyball, enhancing their teaching abilities and theoretical knowledge. Schools should organize air volleyball teaching training for physical education teachers, strengthen the cultivation of professional teachers, organize teachers to go out for learning to master the most advanced air volleyball teaching methods, and require teachers to carry out air volleyball teaching and research activities centered around the actual teaching situation of the school, studying scientific teaching methods that are suitable

for the school's teaching reform^[14]; secondly, universities can recruit professional air volleyball teachers from all sectors of society, including air volleyball coaches and retired athletes, and utilize experienced teachers to give lectures and demonstrations, making air volleyball training more professional.

4.2.3. Improve Venues and Equipment

Sports facilities and equipment are the material conditions for the implementation of physical education, which directly affect the development of college physical education. In response to the current situation of insufficient facilities and equipment for public volleyball classes in colleges and universities, relevant departments and schools should increase investment in the development of school physical education to achieve comprehensive development and provide better material conditions for physical education teaching^[15]. Although air volleyball does not require high standards for facilities, sharing facilities with other sports may lead to tension or conflicts in venue resources. Therefore, colleges and universities should increase investment in the construction of air volleyball facilities, renovate existing sports facilities with low utilization rates, improve the utilization rate of school facilities, and provide students with a better environment for air volleyball training and competition by improving infrastructure.

4.2.4. Introduce Policies to Provide Support

The government and education departments should introduce more supportive policies to provide financial and policy assistance for universities to promote air volleyball. For example, special funds can be established to support the construction of air volleyball venues and the procurement of equipment in universities. At the same time, universities should also establish incentive mechanisms, such as providing credit rewards or scholarships for students participating in air volleyball, to stimulate students' enthusiasm.

5. Conclusion

At the critical stage of the transformation of sports-education integration from "policy advocacy" to "practical implementation", the introduction of air volleyball into public physical education classes in universities is not only an innovation in course content but also a profound practice of the "health first" educational philosophy. Based on the above analysis, this study believes that offering air volleyball courses in public physical education classes in universities in Chongqing is highly feasible. It is recommended that relevant departments in universities actively take measures, formulate scientific teaching plans, cultivate professional teachers, improve venue facilities, and gradually incorporate air volleyball into the public physical education curriculum system. This will not only enrich the content of university physical education courses and meet the diverse needs of students, but also promote the popularization and development of air volleyball, while injecting new momentum into the localization of sports-education integration theory in Chongqing.

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