

A Study on the Implementation Pathways for Pickleball in University Physical Education Programs



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Abstract: In recent years, as the concept of nationwide fitness has taken root in public consciousness, the diversification of university physical-education (PE) curricula has attracted increasing attention. Pickleball, an emerging sport that integrates the characteristics of tennis, badminton and table tennis, offers both high entertainment value and strong competitiveness. Introducing pickleball into universities can not only enrich PE course offerings but also satisfy students' diverse exercise needs and improve their physical fitness; therefore, exploring ways to implement the sport is of great practical significance. Focusing on pathways for incorporating pickleball into university PE curricula, this paper analyses the necessity and feasibility of such programmes and proposes implementation strategies that include the construction of a curricular system. The aim is to provide a reference for universities seeking to diversify PE content and enhance students' physical literacy, thereby promoting the wider popularisation and development of pickleball in university physical education.

Keywords: higher education physical education programmes, Pickleball, implementation pathways

1. Introduction

Amid the ongoing evolution and reform of university physical education (PE) in China, enriching curricular content and satisfying students' increasingly diverse sporting needs have become a critical institutional imperative. Pickleball — an emerging racket sport that amalgamates technical and tactical features from tennis, badminton, and table tennis — has garnered widening public attention by virtue of its high playfulness, low technical threshold, and rapid learning curve. Introducing pickleball into university PE curricula not only furnishes students with a novel exercise option capable of stimulating their enthusiasm for physical activity, but also catalyzes the broader diversification of university sport offerings. Consequently, a systematic investigation of the implementation pathways through which pickleball can be embedded within

higher-education PE programs is of pronounced practical significance.

2. The Feasibility and Necessity of Implementing Pickleball Programs in Universities

2.1 Infrastructure and policy support

The development of pickleball programs in universities is supported by a solid foundation of facilities and policy environments. In terms of infrastructure, universities inherently possess certain advantages in sports venue resources. Many universities are equipped with spacious and well-lit outdoor sports grounds that can be reasonably planned or renovated to meet the requirements for pickleball courts (Wei, 2022). Compared with some professional sports venues, university facilities offer greater flexibility in spatial layout and usage. The number and size of pickleball courts can be adjusted

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flexibly according to actual needs. Meanwhile, university indoor gyms provide an excellent environment for indoor pickleball practice. Regardless of adverse weather conditions or cold seasons, students can still engage in pickleball activities indoors, ensuring the program's continuity and stability.

Furthermore, universities generally have well-established systems for sports facility maintenance and management, which ensures the timely upkeep and renewal of pickleball courts and related equipment, thereby providing a strong guarantee for the long-term development of the program. From a policy perspective, both national and local governments place great emphasis on the development of physical education in higher institutions and have introduced multiple policies to support distinctive sports programs in universities. These policies provide not only a legal and institutional basis but also financial support for the introduction of pickleball programs. For instance, the government encourages universities to innovate their physical education curricula and enrich teaching content. As a novel, engaging, and competitive sport, pickleball aligns perfectly with such policy orientations. Universities can apply for special sports project funds to construct pickleball courts, purchase equipment, and train professional instructors.

2.2 Compatibility between student characteristics and the program

University students possess unique characteristics that deeply align with the nature of pickleball, making it highly suitable for development within higher education institutions. Physically, university students are in their prime developmental stage, demonstrating strong capacities for both learning and physical activity. Pickleball features moderate exercise intensity, meeting students' needs for physical fitness and health enhancement without imposing excessive physical strain. Participation in pickleball can improve students' reaction speed, coordination, and endurance, contributing to their overall physical development (Cai & Han, 2022).

In addition, the technical movements of pickleball are relatively easy to learn, making it accessible even for students with limited sports foundations. They can acquire fundamental hitting and movement techniques in a short period, thereby boosting their confidence and enthusiasm for sports participation. In terms of interests and social needs, university students are energetic, curious about new experiences, and willing to try various sports activities. As an emerging sport with unique appeal and enjoyment, pickleball naturally attracts students' attention and participation. Through pickleball, students can meet peers with similar interests, expand their social circles, and foster meaningful interpersonal interactions.

3. Objectives of Implementing Pickleball Programs in University Physical Education Courses

3.1 Synergistic enhancement of skill acquisition and physical fitness

The implementation of pickleball programs in university physical education courses aims to achieve synergistic improvement in both skill acquisition and physical development. In terms of skill learning, pickleball involves a variety of hitting techniques, agile footwork, and tactical coordination. Through systematic instruction and repeated practice in class, students can gradually master the basic techniques of forehand and backhand strokes, thereby improving their control over the ball and the accuracy of their shots (Zhang, 2024). As students advance in their learning, they also develop the ability to apply different tactics according to varying opponents and match situations, enhancing their strategic thinking and adaptability.

From the perspective of physical development, pickleball places multiple demands on students' physical qualities. Players are required to move, jump, and turn quickly, which effectively trains speed, strength, agility, and coordination. Continuous practice can also strengthen cardiopulmonary function and endurance levels. Skill acquisition and physical fitness development are mutually

reinforcing processes: a strong physical foundation supports the mastery of advanced skills, while skill improvement, in turn, motivates students to take on more intensive physical challenges, thereby further enhancing their physical fitness.

Through the development of pickleball programs, university physical education courses can help students acquire practical sports skills while comprehensively improving their physical condition, thus laying a solid foundation for a healthy and active lifestyle.

3.2 Dual cultivation of social competence and lifelong sports awareness

The implementation of pickleball programs in university physical education courses also contributes to the dual cultivation of students' social competence and lifelong sports consciousness. From the perspective of social development, pickleball is often played in doubles or team formats. In such cooperative settings, students must communicate closely with their teammates and coordinate effectively. Through tactical discussions and mutual encouragement, students strengthen their communication skills and teamwork spirit. Engaging in competition with different opponents also helps expand their social circles, foster mutual respect and appreciation, and enhance interpersonal competence.

Regarding the cultivation of lifelong sports awareness, the fun and competitive nature of pickleball easily stimulates students' interest and enthusiasm (Jin & Guo, 2025). During the course, students experience both the joy and the sense of achievement that come from exercise, encouraging them to gradually integrate pickleball into their daily lives. University physical education courses that combine sports knowledge with health education help students understand the importance of exercise for both physical and mental well-being. This integration of interest and awareness promotes the formation of sustainable exercise habits, encouraging students to maintain physical activity after graduation and regard sports as an integral part of life, ultimately fostering a lifelong commitment to physical fitness.

4. Pathways for Implementing Pickleball Programs in University Physical Education Courses

4.1 Establishing a hierarchical and progressive pickleball teaching syllabus

Establishing a hierarchical and progressive teaching syllabus serves as an essential foundation for implementing pickleball programs in university physical education courses. The syllabus should be designed according to students' varying levels and prior experience. For beginners with no pickleball background, the syllabus should emphasize basic knowledge and fundamental skills (Hong, 2025). From a theoretical perspective, it should provide a detailed introduction to the origins, rules, and court standards of pickleball, allowing students to gain a preliminary understanding of the sport.

In practical training, instruction should begin with the most basic elements — such as the correct grip and ready position — before progressively guiding students to master fundamental techniques like serving and returning. Through repeated practice and correction, students can gradually acquire proficiency in these basic skills. For intermediate students with some prior experience, the syllabus should aim to enhance their skill difficulty on the basis of a solid foundation. It may introduce advanced techniques such as slicing and smashing, enabling students to choose appropriate strokes according to different situations.

In the area of tactics, instructors should teach basic doubles coordination strategies to cultivate students' teamwork awareness and tactical thinking. More practical sessions can be arranged to allow learners to test their skills and tactical applications in competition. For advanced students, the syllabus should emphasize the cultivation of competitive and innovative abilities, introducing sophisticated technical and tactical elements such as complex spin shots and diversified tactical combinations. Students should be encouraged to participate in intercollegiate and higher-level competitions to gain experience in high-level athletic environments and to explore new techniques and tactics that contribute to the sport's

development.

A layered and progressive teaching syllabus enables instruction to meet the needs of students at different levels, enhance teaching effectiveness, and promote continuous progress in pickleball learning.

4.2 Strengthening equipment reserves through university – enterprise cooperation

Establishing university – enterprise cooperation for the preparation of pickleball equipment is a crucial measure to ensure the successful implementation of the sport in universities. Such collaboration allows both parties to leverage their respective resources and advantages (Xue, 2025). Enterprises with professional production capabilities and extensive market resources can supply high-quality, diversified pickleball equipment to universities. Meanwhile, universities, with their stable student bases and consistent educational needs, provide enterprises with broad market opportunities.

When cooperating, universities can jointly develop procurement plans with enterprises according to teaching objectives and student requirements. Enterprises can then customize pickleball paddles, nets, and other equipment to meet educational standards, ensuring both quality and cost-effectiveness. Universities may also establish equipment reserve centers with input from partner enterprises to ensure adequate supply during teaching and competitions.

Beyond procurement, cooperation can extend to equipment maintenance and upgrading. Enterprises can provide professional maintenance services, conduct regular inspections, and recommend new models and technologies as the sport evolves. Universities can thus keep their facilities updated to maintain high teaching and competition quality.

Additionally, joint promotional activities—such as equipment exhibitions and demonstration events—can be organized. These activities not only deepen students' understanding of pickleball equipment and enhance their enthusiasm for participation (Jian, 2024), but also help enterprises build a positive brand image and foster development. Through such cooperation, both universities and enterprises achieve

a mutually beneficial outcome, ensuring sustainable support for the long-term growth of university pickleball programs.

4.3 Integrating online and offline teaching modes

Adopting a blended teaching model that integrates online and offline instruction aligns with the modern trend in education and enhances the effectiveness of pickleball teaching in universities. In offline teaching, instructors can guide and demonstrate in person — showing students proper serving, striking, and movement techniques for direct observation and imitation (Wang & Cui, 2025). Teachers can also provide immediate corrections and personalized feedback. Practical, on-site exercises enable students to consolidate skills, apply tactics, and improve overall performance. Offline classes may further include group activities and competitions to foster teamwork and a sense of fair play.

In online teaching, instructors can use digital platforms to upload instructional videos, courseware, and learning resources. Students can learn anytime and anywhere at their own pace. Videos may include detailed explanations of pickleball techniques and tactical principles, allowing for repeated viewing and deeper comprehension. Online discussion forums can also be established, where students exchange learning experiences, ask questions, and engage in real-time communication with teachers and peers.

Moreover, technologies such as Virtual Reality (VR) and Augmented Reality (AR) can be integrated to create immersive and interactive learning environments. Students can simulate various court conditions and match scenarios through VR devices, improving their adaptability and tactical response. By combining the advantages of both online and offline methods, this hybrid model enhances flexibility, efficiency, and inclusiveness in pickleball education to meet diverse learning needs.

4.4 Establishing pickleball clubs to encourage voluntary participation

The establishment of pickleball clubs is an important measure to stimulate students' independent participation and sustained enthusiasm. Clubs provide a platform for students to communicate

freely, share experiences, and collaborate in learning pickleball skills and tactics. Within the club, students can form friendships with like-minded peers, exchange insights, and support one another, creating a positive and engaging environment.

Clubs can organize various activities such as lectures, training courses, and friendly matches. Inviting professional coaches or athletes to deliver lectures on current trends and developments in pickleball can broaden students' horizons. Training courses conducted by experts help improve students' technical proficiency, while friendly matches offer opportunities for practical exercise and competitive experience.

Participation in these activities stimulates students' interest and enthusiasm for pickleball, encouraging broader engagement in competitions. Clubs may also represent universities in intercollegiate or regional events, which not only brings honor to the institution but also allows students to gain exposure on larger platforms. Inter-school exchanges enable students to learn new techniques and strategies, further enhancing their competence.

To ensure the sustainable development of such clubs, universities can provide institutional support—including funding, access to venues, and faculty mentorship. Faculty advisors can offer professional guidance and assist in planning and promotion. The establishment of pickleball clubs effectively fosters students' initiative and autonomy, promoting the prosperous development of pickleball programs in universities.

4.5 Establishing a scientific evaluation and assessment system

A key component of implementing pickleball programs in university physical education is constructing a scientific evaluation and assessment system. This system allows accurate measurement of learning outcomes while providing evidence-based feedback for instructional improvement. Assessment should cover both theoretical knowledge and practical skills.

The theoretical component may include rules,

historical background, and tactical principles, evaluated through written tests or online assessments to measure students' comprehension. This theoretical foundation supports a deeper understanding of the sport and its practical application.

Practical skill assessment—considered the core of evaluation—can be divided into two parts: basic technical proficiency and competitive performance. Basic skill assessment focuses on the standardization and accuracy of serves, returns, and movement, with criteria such as serve success rate and placement control. Competitive ability can be evaluated through match-based performance, observing students' tactical application, teamwork, and adaptability.

The assessment methods should be diversified, giving greater weight to formative assessments alongside final evaluations. Routine evaluations may include class participation, homework, and quizzes. Homework assignments may take the form of research reports or technical analyses to enhance independent learning. Periodic small-scale tests can help track students' progress in knowledge and skills.

The evaluation process should also be multi-dimensional, incorporating self-assessment and peer assessment alongside instructor evaluation. Self-assessment encourages reflection, helping students identify strengths and weaknesses, while peer assessment promotes communication, collaborative learning, and evaluative competence. Teachers should provide constructive feedback and targeted guidance to help students identify areas for improvement.

5. Conclusion

The implementation of pickleball programs in university physical education represents an important initiative that aligns with the development trends of modern physical education and meets students' growing needs for diverse sports participation. By building a scientific curriculum system, cultivating qualified teaching staff, improving facilities, and enhancing publicity and promotion, universities can effectively promote the sustainable development of pickleball programs.

Such efforts not only enrich the content of university physical education and foster students' physical literacy and comprehensive abilities, but also contribute to the broader promotion and dissemination of pickleball in China. In the future, universities should continue to explore, innovate, and optimize the pathways for developing pickleball programs, thereby further improving the overall quality of physical education and promoting the healthy growth of students.

Conflict of Interest

The author declare that he has no conflicts of interest to this work.

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