

Article

Research on the Integration of University Physical Education and Community Sports Resources to Serve Community Education Practice

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Abstract: Against the backdrop of the Healthy China Strategy and the construction of the lifelong education system, community education, as an important carrier for nationwide learning, is confronted with practical dilemmas such as insufficient professional physical education teachers, shortage of venues and equipment, and a weak curriculum system. Universities are endowed with abundant sports venues, professional teachers, curriculum resources and talent reserves. Promoting the integration of university physical education teaching resources and community sports resources can break down the barriers between campus sports and community education and realize the two-way flow of resources. Adopting the methods of literature review, questionnaire survey, interview and case analysis, this paper sorts out the internal logic of integrating university physical education teaching resources and community sports resources to serve community education, investigates the current practice of university-community resource integration, and analyzes existing problems in the resource integration process including inefficient institutional mechanisms, imbalance between supply and demand, risks in safety management, and the absence of evaluation systems. Combined with domestic practical cases of university-community co-construction, it puts forward implementation approaches and guarantee strategies for resource integration. The study finds that empowering community education with university sports resources can not only enrich the supply of community physical education and improve residents' health literacy, but also reversely diversify university physical education teaching scenarios and expand social practice platforms for sports majors, thus achieving a win-win outcome for both universities and local communities. This research aims to provide practical references for advancing the socialized service of university sports resources and improving the community lifelong education system.

Keywords: university physical education teaching; community sports; resource integration; community education; national fitness

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1. Introduction

1.1. Research Background

The Healthy China 2030 Plan Outline clearly proposes promoting the opening of school sports venues to the public and encouraging universities to leverage their talent strengths to participate in national health services. The Opinions of the Ministry of Education on Promoting the Development of Community Education advocates building an education system serving lifelong learning for all and encourages all types of schools to open educational resources to communities [1]. With the continuous improvement of residents' health awareness, community residents' demand for sports learning has grown rapidly, and the sports component within community education has become an important part of residents' lifelong learning. Nevertheless, most communities suffer from insufficient public sports venues, a shortage of professional sports instructors, and monotonous sports curricula, making it difficult to meet differentiated fitness and learning needs of the elderly, teenagers, office workers and other groups [2].

The university physical education system consists of diversified resources including venues and facilities, physical education teachers, sports curricula, student volunteers, and physical fitness testing equipment. A large amount of sports resources remain idle during non-teaching hours. For a long time, university physical education has been confined to on-campus talent training and isolated from community education, so resource advantages have not been translated into public education service capacity. Promoting the integration of university physical education teaching resources and community sports resources and embedding university sports resources into the community education system is an inevitable requirement for activating idle university resources and fulfilling universities' social service functions. It also serves as a practical option to shore up weaknesses in the sports sector of community education and implement the national fitness initiative.

1.2. Research Significance

1.2.1. Theoretical Significance

This study clarifies the internal relationships among university physical education teaching resources, community sports resources and community education. It enriches the theoretical framework for the integration of university-community sports resources, expands research content at the intersection of community education, school physical education and national fitness, and provides theoretical support for subsequent similar studies.

1.2.2. Practical Significance

It explores implementable practical models for university sports resources to serve community education and addresses the practical shortage of community physical education supply. Meanwhile, real community scenarios are introduced into university physical education teaching, enabling sports majors to complete practical training through community services. This innovates university physical education teaching modes and realizes the coordinated development of talent cultivation and social services.

1.3. Research Status at Home and Abroad

Domestic scholars have conducted extensive research on university-community sports resource sharing. Zhong and Li [3] put forward the operation mechanism of university-community sports resource sharing, pointing out that the core obstacles lie in management mechanisms, safety liabilities and fund guarantee. Duan and Zhang [2] proposed the staggered opening mode of university venues in their research, and built community fitness guidance teams composed of sports majors to carry out public welfare community sports teaching. Zhao [4] argued that university sports resources serving communities cover three dimensions: venue sharing, talent outreach and joint event organization. University-community linkage can build a cultural bond between campuses and communities. Existing studies mostly focus on venue opening, while few systematically integrate university physical education teaching resources as curriculum resources for community lifelong learning from the perspective of community education. Practical research on teaching transformation, co-construction of curricula and long-term operation still needs to be deepened.

Overseas countries started opening school sports resources to communities at an earlier stage. In the United States, sports venues of community colleges are open to residents around the clock, and physical education teachers deliver community fitness courses. Japan has implemented the "Community Sharing System for School Sports Facilities", establishing sound systems for safety insurance and reservation management, and incorporating school sports curriculum resources into the community lifelong learning system [5]. Foreign experience has proven that sound institutional guarantee is the key to the sustainable operation of university-community resource integration. However, foreign models cannot be copied directly and require localized adaptation in line with the governance structure of community education in China.

1.4. Research Methods

Literature Review: CNKI and Wanfang databases were retrieved to collect journal papers and policy documents related to school physical education, community education, national fitness and resource integration, so as to sort out the theoretical basis and existing research findings.

Questionnaire Survey: Three local undergraduate universities and five surrounding communities were selected. Questionnaires were distributed to community residents and university physical education teachers to investigate residents' sports learning demands, universities' willingness to open resources and existing barriers. A total of 320 questionnaires were issued, 296 valid questionnaires were recovered, with an effective recovery rate of 92.5%.

Interview: Persons in charge of university physical education departments, administrators of community education centers and social sports instructors were interviewed to gain an in-depth understanding of practical pain points and management difficulties in university-community cooperation.

Case Analysis: Several domestic cases of university-community sports co-construction for community education were selected to summarize successful experience and deficiencies.

2. Definition of Relevant Concepts and Theoretical Basis

2.1. Definition of Concepts

University physical education teaching resources refer to all resources relied on by universities to carry out physical education teaching, including hardware resources (sports venues, sports equipment, physical fitness monitoring instruments), human resources (physical education teachers and sports majors), curriculum resources (theoretical courses, motor skill courses, sports rehabilitation, and health popularization teaching content), and information resources (online fitness teaching videos and health knowledge bases).

Community sports resources are venues, equipment, community sports backbones and organizational systems for community sports activities within communities, serving residents' daily fitness activities.

Resource integration means breaking the resource barriers between universities and communities, coordinating and reorganizing the two types of resources, realizing the two-way circulation of venues, teachers, curricula and activities, and forming a complementary and symbiotic resource system.

Community education refers to lifelong education activities carried out for all community residents, without restrictions on age or educational background. It meets residents' learning needs for knowledge acquisition, skill improvement and health literacy enhancement, and physical education is an important component of community education.

2.2. Theoretical Basis

2.2.1. Resource Dependence Theory

No organization can be completely self-sufficient and needs to acquire external resources to sustain its development. Universities require real social practice scenarios to improve the training of sports professionals, while communities lack professional physical education resources. The two sides form a cooperative relationship featuring resource complementarity and mutual dependence, which provides theoretical support for university-community resource integration.

2.2.2. Lifelong Education Theory

Lifelong education advocates that learning runs through people's whole life, and community education is the carrier for the implementation of lifelong education. The extension of university physical education teaching resources to communities can provide continuous sports learning opportunities for residents of all ages and implement the concept of lifelong education.

2.2.3. Collaborative Governance Theory

Multiple stakeholders including universities, communities, local education authorities and sports authorities participate collaboratively to jointly plan, operate and manage university-community physical education projects. The division of labor and cooperation among multiple parties reduces independent operation costs and maximizes the benefits of public services.

3. The Inherent Value of Integrating University Physical Education Teaching and Community Sports Resources to Serve Community Education

3.1. *Enrich Community Education Supply and Meet Residents' Diversified Sports Learning Needs*

Community education covers the elderly, teenagers and working adults. The elderly mainly demand Tai Chi, Baduanjin, exercise intervention for chronic diseases and physical fitness monitoring; teenagers need skill teaching such as basketball and badminton; young and middle-aged groups require courses on fat loss and physical training. Community education administrators lack professional physical education teachers and find it difficult to develop systematic sports curricula. University physical education teachers possess professional capabilities in sports teaching, exercise physiology and sports rehabilitation, and sports majors can serve as auxiliary teaching staff. Mature university sports courses can be transformed into community education courses to shore up weaknesses in community physical education [6].

3.2. *Activate Idle University Sports Resources and Expand the Space for University Physical Education Teaching*

University sports venues and equipment are only used during class hours and remain largely idle on weekends and winter and summer vacations. Staggered opening to communities improves the utilization rate of hardware resources. Meanwhile, communities act as off-campus practical classrooms. Sports majors go out of campus to conduct community teaching, organize competitions and carry out physical fitness monitoring, converting classroom theories into practical capabilities. This expands university physical education scenarios, improves practical teaching links and enhances the quality of talent cultivation. Through community teaching, university physical education teachers can also understand the real demands of public fitness and reversely optimize the design of on-campus sports courses.

3.3. *Boost the Construction of Healthy China and Build a Community Lifelong Learning Ecosystem*

Resource integration promotes the popularization of scientific fitness knowledge, guides residents to establish active health concepts and improves the national physical health level. Integrating sports courses into community education enriches community cultural life, creates a community atmosphere of nationwide learning and lifelong fitness, and promotes the upgrading of community governance.

4. Current Situation and Existing Problems of Integrating University Physical Education Teaching and Community Sports Resources to Serve Community Education

4.1. *Current Status of Resource Integration Practice*

According to the survey results, some local universities have attempted to cooperate with surrounding communities, which can be mainly divided into three forms. First, the opening of venue resources: track and field fields and basketball courts are open to community residents in time slots on weekends and holidays. Second, short-term public welfare activities: universities organize teachers and students to enter communities to carry out physical fitness monitoring, fitness lectures and short-term fitness experience courses. Third, co-construction of community physical education classrooms, where regular courses such as Tai Chi and aerobics are offered for community education.

Nevertheless, most university-community cooperations are short-term and temporary activities and have not been incorporated into the regular community education system. The opening of sports resources in most universities merely stays at the level of venue opening. In-depth integration of curriculum teaching and teaching staff is limited, and the level of resource integration remains superficial.

4.2. Main Existing Problems

4.2.1. Fragmented Management System and Lack of Long-Term Coordination Mechanism

Universities belong to the education system, while community education is administered by sub-district offices and community education centers. The two parties are under different management systems, lacking a unified leading department and long-term cooperation agreements. Most cooperative projects are promoted through personal connections without institutional constraints. Universities worry about campus safety and liability for facility damage caused by external visitors; communities are concerned about activity funds and organizational management costs, making it difficult to sustain cooperation [3].

4.2.2. Mismatch between Supply and Demand and Insufficient Curriculum Transformation Capacity

Universities simply transplant on-campus physical education courses to communities without revising curricula according to community residents' age and physical fitness foundation. For instance, high-intensity fitness courses designed for university students are unsuitable for elderly residents. Community residents demand exercise prescriptions for chronic diseases and home rehabilitation guidance, while universities only provide competitive sports teaching. The supply is disconnected from residents' real learning needs. Meanwhile, there is a lack of a joint curriculum development mechanism, resulting in inadequate capacity to convert university physical education teaching resources into community education courses.

4.2.3. Insufficient Human Resource Support and Absence of Incentive Mechanisms

University physical education teachers are burdened with heavy teaching and research tasks. Their participation in community education services is mostly voluntary, without workload recognition or performance appraisal incentives, which restricts teachers' willingness to participate. For sports majors, community teaching is treated as short-term social practice. Without credit recognition and continuous training mechanisms, students have high mobility and poor teaching continuity. Local community sports backbones have no access to university classrooms, and the two-way flow channel for teaching staff is blocked.

4.2.4. Prominent Deficiencies in Safety Risks and Fund Guarantee

After venue opening, the liability for residents' sports injuries and facility damage is unclear, and supporting insurance is inadequate. Out of safety concerns, universities restrict the scope and duration of opening. Funding for resource integration projects is unstable and lacks special government financial support. Insufficient funds for curriculum development, equipment maintenance and volunteer subsidies hinder long-term operation.

4.2.5. Absence of Evaluation and Assessment System

There are no evaluation criteria for university-community co-constructed community physical education projects. The effectiveness of community education is not assessed from dimensions such as residents' learning satisfaction, physical fitness improvement and course completion rate. At the university level, community education services are not included in the evaluation of physical education teaching outcomes, making it hard to quantify the effects of resource integration.

5. Practical Paths for Integrating University Physical Education Teaching and Community Sports Resources to Serve Community Education

5.1. Construct a Multi-Party Collaborative Governance Mechanism and Sign Long-Term University-Community Co-Construction Agreements

Set up a four-party working group consisting of education bureaus, sports bureaus, sub-district communities and university physical education departments to clarify the rights and obligations of all parties. Universities and communities shall sign long-term co-construction agreements, incorporating co-construction of sports curricula, staggered venue opening and physical fitness monitoring into the annual work plan of community education. Formulate management rules for campus sports venue reservation and campus entry safety, introduce third-party sports accident insurance to clarify the boundary of liability for sports injuries and ease universities' safety concerns [4]. Establish a regular joint meeting system to communicate residents' demands and curriculum implementation on a quarterly basis and dynamically adjust service plans.

5.2. Classified Resource Integration and Construction of a Two-Way Resource Sharing System

Hardware resource integration: Implement the staggered opening model. Track and field fields and ball venues are open on weekday evenings, weekends, winter and summer vacations. An online real-name authentication reservation system is adopted to control passenger flow and prioritize campus teaching order. Communities open community squares and activity rooms for universities to carry out offline community teaching, realizing two-way venue sharing.

Human resource integration: Build a two-way teacher pool. University physical education teachers serve as specially appointed sports lecturers for community education to offer courses on health popularization, exercise prescriptions and motor skills. Selected sports majors form a volunteer team for community physical education and their work is included in practical credit management. Tap fitness enthusiasts and social sports instructors within communities and invite them to university classrooms to share experience in community sports organization so as to achieve two-way flow of teachers [7].

Curriculum resource integration: Jointly develop hierarchical and categorized community physical education courses. Offer Baduanjin, Tai Chi and exercise intervention courses for chronic diseases for the elderly; launch weekend public welfare sports training camps for teenagers; provide scientific fat loss and strength training courses for adults. Adapt university physical education courseware and teaching videos into online community micro-courses and release them via community education platforms to form an online-offline integrated community sports curriculum system.

5.3. Innovate Teaching and Practice Modes to Promote In-Depth Integration of University Physical Education Teaching and Community Education

Curriculum embedding mode: Incorporate community sports teaching into practical courses for sports majors. Under teachers' guidance, students prepare lessons, deliver lectures and organize community sports activities, and their practical performance counts toward course credits.

Community classroom entering campus mode: Organize community residents to visit university sports venues for centralized community education teaching in professional sites, and conduct residents' physical fitness tests using university physical fitness monitoring equipment.

Joint sports event mode: Universities and communities jointly hold community fun sports meets and parent-child sports festivals. Universities are responsible for event planning, refereeing and technical guidance, while communities mobilize residents. Sports events are taken as practical carriers of community education.

5.4. Improve Incentive and Fund Guarantee Systems

Local finance shall set up special funds for university-community physical education co-construction, covering curriculum development, equipment maintenance and

volunteer subsidies. Universities shall reform the teacher assessment system: public welfare community teaching can be converted into teaching workload and serve as a reference for evaluation and promotion. Establish student incentive mechanisms: community teaching practice is counted as social practice credits, and outstanding volunteers will receive commendations.

5.5. Establish a Multi-Dimensional Evaluation System

Build a comprehensive evaluation mechanism combining process evaluation and outcome evaluation. Evaluation dimensions include: community residents' course participation rate, resident satisfaction and changes in residents' physical fitness indicators; university dimension: improvement of students' practical ability and teachers' social service achievements; management dimension: safe venue operation and curriculum sustainability. Collect residents' feedback regularly to iteratively optimize curriculum content and service modes.

6. Case Practice Analysis (Taking the University-Community Co-Constructed Community Physical Education Project of a Local University as an Example)

The School of Physical Education of a local undergraduate university carried out a two-year resource integration practice with two surrounding community education centers. The cooperation plan adopted staggered opening of the campus track and field and badminton courts. Led by university physical education teachers, an undergraduate teaching team majoring in physical education offered three community education courses in the community every week: Tai Chi, youth basketball, and physical fitness monitoring for the elderly. The project initially only delivered one-off public welfare lectures, and later established regular courses, incorporating community teaching into the practical teaching credits for physical education majors.

Practical effects: More than 1,200 person-times of community residents participated in sports courses, and the coverage rate of physical fitness monitoring among elderly residents increased significantly. A total of 86 physical education majors from the university took part in community teaching, and students' abilities in curriculum organization and teaching communication were markedly improved. It was found in practice that the biggest difficulties of the project were heavy teaching workload for teachers and high turnover of students. These problems were alleviated by establishing a stable teacher rotation system and applying for special funds for local community education. The case demonstrates that the integration of university physical education teaching resources and community sports resources to serve community education is feasible with supporting systems, funds and incentive measures. However, short-term volunteer activities cannot be sustained, and institutionalized operation is indispensable.

7. Conclusions and Prospects

7.1. Research Conclusions

The integration of university physical education teaching resources and community sports resources serves as an effective way to enrich sports services in community education, implement the national fitness initiative and innovate the training mode of sports talents in universities. At present, domestic practices of university-community resource integration are confronted with institutional barriers, disconnection between supply and demand, insufficient incentives, and weak guarantees for safety and funding. To promote resource integration, it is necessary to build a multi-party collaborative governance mechanism involving the government, universities and communities, coordinate venue, teaching staff and curriculum resources, develop hierarchical community sports courses, and improve systems for safety, funding, incentives and evaluation. Scattered short-term public welfare activities should be transformed into regular and institutionalized community education services. The two-way integration of university and community resources can not only meet community residents' lifelong

sports learning needs, but also empower university physical education teaching in return, achieving mutual benefits and win-win results for universities and communities.

7.2. Research Limitations and Prospects

The research has a limited survey sample, which only selects universities and communities in partial regions, so there are certain limitations in generalizing the conclusions. Future research can expand the survey scope and carry out comparative studies targeting different types of universities (undergraduate colleges and higher vocational colleges) and different types of communities. With the development of digital technology, subsequent research can explore the empowerment of university-community resource integration by smart sports platforms, including online courses, reservation systems and digital management of physical health, to further improve the service efficiency of community physical education. As the lifelong education system continues to improve in the future, serving community education will become a regular function of universities, and the integration mode of university and community sports resources will be continuously iterated and optimized.

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