



Developing Guidelines to Manage 3x3 Basketball of University Students in Shaanxi Province

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Abstract

Background and Aims: With the vigorous development of China's sports industry, the promotion and development of basketball in universities is particularly important. 3X3 basketball, as an emerging form of basketball, is easier to promote and popularize among university students because of its small venue, small number of people, and short game time. The development of 3x3 basketball among university students in Shaanxi Province faces multiple challenges, including insufficient facilities, a lack of professional coaches and referees, weak competition systems, low student participation, and limited financial investment. Therefore, this research was to develop guidelines to manage 3x3 basketball for university students in Shaanxi province.

Methodology: This research was mixed-method research. The population of this research is the freshmen majoring in basketball at Xi'an Physical Education University for the academic year of 2024, a total of 3 classes, with 325 students. Through a simple sampling method, 1 class with a total of 112 students was selected as a sample group. For this research, 8 experts were interviewed to establish the core elements of guidelines. Additionally, 12 experts conducted a focus group discussion to develop guidelines. Finally, 8 experts conducted a connoisseurship discussion to confirm the developed guidelines. Mean, standard deviation, and content analysis were used to analyze the data in this research.

Results: Guidelines to manage 3x3 basketball of university student in shaanxi province was organized in four aspects, based on POLC framework as follows: (1) Planning comprises four elements: goal setting, core strategy, management process standardization, and collaborative planning based on shared interests; (2) Organizing comprises three elements: framework, division of labor, and personnel allocation; (3) Leading comprises three elements: motivation, communication, and team collaboration; (4) Controlling comprises three elements: evaluation, risk management, and continuous improvement.

Conclusion: After 8 experts' evaluation, all experts unanimously confirmed that the proposed guidelines offer a comprehensive and practical framework for managing 3x3 basketball in Shaanxi Province. The guidelines were well-aligned with the POLC management framework.

Keywords: Management Guidelines; 3x3 Basketball; University Students





Introduction

The 3x3 basketball, also known as “full streetball”, first appeared in the United States in the 1950s and became one of the two main forms of street basketball (Fletcher, 2005). Over the past 50 years, 3x3 basketball has been introduced and played all over the world, for the simple reason that this form of basketball is easy to operate, is not limited by place and venue conditions, and has obvious value in physical fitness, leisure and entertainment, education and training, and business marketing (Carter, 2021). 3x3 basketball was introduced and spread late in China, and 3x3 basketball competitions first appeared in major cities such as Guangzhou, Beijing, Shanghai, and Nanjing in the 1990s (Huang, 2023; Johnson, 2022). After more than two decades of development, 3x3 basketball in China has become popular among young people in a short time, and it is considered one of the fastest-growing sports in the country (Huang, 2023; Johnson, 2022). As a sport that is convenient to play and free to join, 3x3 basketball has become a youth cultural project for personal expression, community integration, and healthy sports practice (Smith & Brown, 2021; Zhang & Li, 2015). National policies have also shown that 3x3 basketball was included in the Chinese University Basketball Association to promote its implementation, and it was also included in the list of official competitions by the International Basketball Federation and was officially included in the Paris Olympic Games in France (FIBA, 2023; Carter, 2021). In addition to its basketball value, 3x3 basketball is also a unique youth cultural phenomenon and choice.

Located in northwest China, Shaanxi is a province with a large population and a deep basketball foundation. The compactness of the game mode of 3x3, with fewer players, smaller venues, and shorter time, is more conducive to the implementation in universities (Huang, 2023; Hoyer & Cuskelly, 2007). The comprehensive and in-depth promotion of 3x3 basketball in universities has important value and potential in improving physical fitness levels, enriching campus cultural activities, and promoting sports industry innovation (Carter, 2021; Masten, 2014). In recent years, with the continued promotion of 3x3 basketball in universities in Shaanxi, although good signs have emerged, there are still some obvious problems in Shaanxi province: (1) weak hardware conditions; most universities have not been equipped with 3x3 basketball courts, resulting in difficulties in 3x3 basketball training; (2) imperfect talent training system; the number of professional 3x3 basketball coaches and referees in universities is small, and some competitions need to invite outside referees; (3) insufficiently perfect competition system; many universities have problems in the organization and implementation of 3x3 basketball competitions, with few competitions and promotion activities; (4) low level of student participation; students are not familiar with and attached to 3x3 basketball, resulting in low enthusiasm for participation; (5) lack of university financial investment; 3x3 basketball has not





formed an investment plan and funding mechanism in universities, which hinders its further promotion (Zhang & Li, 2015; Huang, 2023). In short, these problems are all in need of practical solutions, while the research on this topic is also relatively blank.

Therefore, this study is designed to propose a management guideline for 3x3 basketball in Shaanxi universities. The main purposes are to directly tackle the problem of lack of facilities by establishing and implementing the management guideline and to promote talent training, game organization, enthusiasm improvement, and other aspects of development in an all-round way. Through the improvement of these aspects, it is expected that this research can play a direct role in further strengthening the development of 3x3 basketball in Shaanxi universities, cultivating basketball talents, promoting student fitness and comprehensive quality, improving students' team cooperation and competition skills, and providing a practical reference for the further promotion of this game in the province and the country (Koontz & Weihrich, 2022; Project Management Institute [PMI], 2021).

Research Objectives

To develop guidelines to manage 3X3 basketball for university students in Shaanxi province.

Literature Review

Guideline

The theory of guidelines is grounded in management science and organizational theory, emphasizing the importance of systematically developed recommendations in fostering consistent, effective, and sustainable practices. Within this perspective, guidelines function as a critical link between abstract policies and real-world implementation, ensuring that organizational objectives are not only articulated but also translated into measurable and actionable outcomes. Conceptually, a guideline is defined as a systematically designed framework or set of recommendations aimed at standardizing, regulating, and improving practices, processes, or behaviors within a specific context. The primary purpose of guidelines is to enhance efficiency, maintain consistency, and guarantee quality in the pursuit of targeted outcomes. Unlike abstract theories or broad policy statements, guidelines are informed by a combination of empirical research, expert consensus, and contextual realities, making them both scientifically credible and practically adaptable. As such, they serve as indispensable tools for directing decision-making, coordinating stakeholder actions, and supporting policy execution.

In practice, guidelines provide a roadmap that reduces ambiguity, establishes clear expectations, and enhances the accountability of implementation processes (Koontz & Weihrich, 2022). They also encourage transparency and comparability, allowing stakeholders to assess





whether outcomes align with predefined objectives. In the context of sports development, particularly the management of 3X3 basketball among university students in Shaanxi Province, the creation of guidelines is anchored in the principles of sports management, education policy, and the cultural and social fabric of the region. These guidelines are designed to establish a comprehensive and sustainable framework that addresses the unique challenges of 3X3 basketball, such as limited facilities, underdeveloped talent systems, and inconsistent competition structures. At the same time, they aim to leverage the sport's accessibility and inclusiveness to enhance student participation, promote physical fitness, and enrich campus cultural life. By aligning global best practices in sports governance with local needs and resources, the guidelines not only promote the structured growth of 3X3 basketball but also contribute to the broader goals of educational quality, youth development, and the modernization of China's sports industry.

Management function

The core idea of POLC theory comes from Henri Fayol (1841-1925), who is a famous French management scientist, known as the "father of modern management theory" of Fayol proposed the "General management Theory" (General Management Theory) at the beginning of the 20th century and systematically expounded the basic functions of management in Industry (Administration Industrielle et Generale), published in 1916. Henry Fayol (Henri Fayol) was an important founder of modern management theory. In his 1916 book Industrial Management and General Management (Administration Industrielle et Générale), he proposed the five major functions of management: planning, organization, command, coordination, and control. Planning is a strategy to set goals and formulate strategies to achieve goals. Organization involves reasonable allocation of resources, command emphasizes the guidance of managers to employees, coordination and cooperation between all departments, and control is to supervise the implementation and adjust. This theory laid the foundation of modern management and had a profound influence on later management research. In addition, Fayol also proposed fourteen management principles, such as division of labor, unified command, hierarchical chain, and order (Fayol, 1949). These principles emphasize the systematization and structure of management and contribute to improving organizational efficiency. For example, the unified command principle requires employees to receive orders from a direct superior to reduce confusion and improve execution. These management principles are still widely used in enterprise management, especially in organizational structure design, leadership style, and corporate governance.

Hoye and Cuskelly's study highlights the critical importance of governance structures in sports organizations, emphasizing their central role in project management and resource allocation. They argue that effective governance extends beyond top-level decision-making to





the design of efficient management systems that enable projects to function smoothly. The success of sports initiatives, therefore, depends heavily on the decision-making capacity and execution of management teams, particularly in areas such as event scheduling, resource coordination, and balancing stakeholder interests. For emerging sports like 3X3 basketball, careful attention to governance design is essential to ensure that the interests of all parties are aligned, thereby supporting its effective promotion and wider popularization. This paper adopts the Sport Governance Theory, which stresses the need for rationality and transparency in governance structures to guarantee a scientific and credible decision-making process. Hoyer and Cuskelly emphasize that a well-designed governance framework is indispensable for managing sports projects, particularly university-based 3X3 basketball programs. By creating organizational structures that are both transparent and efficient, sports organizations can enhance sustainability, optimize event organization and management, and ensure the long-term success and smooth operation of projects. (Hoyer & Cuskelly 2007).

The Project Management Institute's Planning Performance Domain (PMI, 2021) emphasizes integrating objectives, strategies, and stakeholder collaboration to reduce uncertainty, which underpins the guideline's planning elements of goal setting, standardized processes, and collaborative planning. Similarly, Colquitt et al (2020) highlight the effectiveness of clear structural design, division of labor, and personnel alignment, directly informing the organizing component of the framework. In terms of leadership, Goleman's (2017) theory of motivational communication and cross-departmental collaboration resonates with the guidelines' focus on incentives, communication systems, and team cohesion, though in this case, adapted to performance-driven sports environments. For control and evaluation, Kaplan and Norton (2023) demonstrate the value of multi-dimensional performance measurement, which aligns with evaluating competition outcomes, student engagement, safety, and skill growth.

In the field of sports governance, Hoyer and Cuskelly (2007) argue that rational and transparent governance structures are essential for resource allocation and project sustainability, supporting the establishment of provincial-level committees for 3X3 basketball. Sport-specific studies, such as FIBA's analyses of 3X3 basketball and Chinese university sports research, confirm the sport's unique demands, fast tempo, high-intensity physical load, and tactical constraints, while also identifying persistent challenges in venues, staffing, and management systems. These insights justify the guidelines' recommendations for tiered competition systems, structured training cycles, and resource-sharing mechanisms. Together, this body of literature ensures that the proposed guidelines are not only theoretically grounded but also contextually relevant, enabling standardized, professionalized, and sustainable development of 3X3 basketball in Shaanxi universities.





In summary, applying the POLC framework provides a systematic foundation for developing management guidelines tailored to the promotion of 3X3 basketball in Shaanxi universities. Within the planning function, goals can be set to expand student participation, improve competitive performance, and strengthen institutional support for 3X3 basketball. Strategies should include standardized management processes, collaborative planning among universities, and alignment with provincial and national sports development policies. Organizing then focuses on creating efficient structures, including dedicated committees for 3X3 basketball, clear divisions of responsibility among coaches, referees, and administrators, and rational allocation of resources such as venues, equipment, and funding. By establishing transparent governance structures, as emphasized by Hoye and Cuskelly (2007), universities can ensure equitable decision-making and maximize the efficient use of limited resources.

The leading function emphasizes motivation, communication, and team-building to create a supportive environment for student athletes. Coaches and administrators must employ strategies that encourage student engagement, foster collaboration between departments, and cultivate leadership among athletes, consistent with Goleman's (2017) model of motivational communication. Finally, the control function ensures that management practices remain accountable and adaptive through regular evaluation. This includes monitoring competition outcomes, student participation rates, athlete safety, and skill development using multidimensional indicators (Kaplan & Norton, 2023). By integrating evaluation with continuous improvement mechanisms, universities can adapt training cycles, refine event organization, and strengthen injury-prevention measures. Together, these four dimensions of POLC create a comprehensive, evidence-based framework that supports the sustainable, professionalized, and scalable development of 3X3 basketball for university students in Shaanxi Province.

3x3 Basketball

3X3 basketball originated in the United States in the mid-20th century as an integral part of street basketball culture. Owing to its low participation threshold and flexible format, it quickly became a favored activity among teenagers and urban basketball enthusiasts. In its early stages, 3X3 basketball had no standardized rules, with games often played in an informal, spontaneous style for entertainment and social interaction. This grassroots character not only helped spread basketball within urban communities but also provided players with opportunities to refine their skills while offering a platform for self-expression and social connection (Fletcher, 2005). Over time, 3X3 basketball evolved from this informal setting into a recognized competitive sport. Its simplified rules, fast-paced rhythm, and minimal requirements for venue size and player numbers have fueled its rapid global development. Beyond reflecting the inclusiveness and diversity of





sport, the rise of 3X3 basketball has opened new pathways for the broader promotion of basketball (Carter, 2021).

As a streamlined version of traditional basketball, 3X3 is defined by “half-court action and fast-paced competition,” earning recognition as one of the fastest-growing formats in the world. While preserving the core appeal of 5X5 basketball, it distinguishes itself through optimized dimensions such as reduced court size, fewer players, and shorter game duration. The format highlights both individual skills, such as one-on-one defense and self-scoring, and dynamic teamwork, including rapid passing and coordinated defense among two to three players. With rules that are simple enough for beginners to grasp yet deep enough to showcase professional-level tactics, 3X3 has gained broad acceptance in schools, communities, and urban settings worldwide (Smith & Brown, 2019).

The 3X3 competition system follows the principle of “simplicity and efficiency,” significantly lowering barriers for participation and event organization. Each team requires only three active players and one substitute, eliminating the complexity of lineup rotations. Competitions can be organized quickly, making the format particularly suited to non-professional environments such as school tournaments, community events, and friendly matches. Games are played on a half-sized standard basketball court (14 meters long, 15 meters wide) with a single hoop, requiring minimal markings and equipment. This “small court + minimal players” configuration frees 3X3 basketball from dependence on professional venues and allows matches to be held in diverse spaces such as schoolyards, community courts, and temporary setups in malls or open squares. According to FIBA (2023), approximately 80% of global 3X3 events are staged in non-professional settings, accelerating its adoption across varied countries and cultural contexts (Johnson, 2022).

Summary

The 3X3 basketball management guidelines for Shaanxi universities provide a structured framework based on planning, organizing, leading, and controlling to standardize processes, clarify responsibilities, motivate participation, and ensure sustainable development. As a fast-paced, inclusive sport with simple rules and low entry barriers, 3X3 basketball has grown from street culture into a global game. Its adaptability to small venues makes it ideal for schools and communities, enhancing student fitness, teamwork, and campus culture.



Conceptual Framework

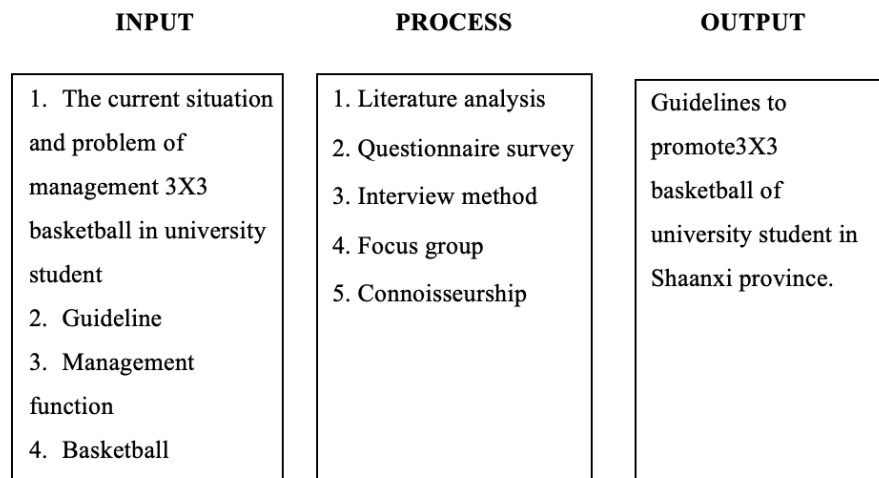


Figure 1 Conceptual framework

This framework for developing management guidelines for 3X3 basketball among university students in Shaanxi Province is structured around the interaction of inputs, processes, and outputs. The inputs are centered on identifying the current challenges of 3X3 basketball management, such as insufficient facilities, weak competition systems, and limited participation, while incorporating the POLC management functions (planning, organizing, leading, controlling) to provide a theoretical lens, and grounding the study in basketball as the core sport to ensure contextual relevance. These inputs justify the framework's focus on both problem-solving and theoretical integration. The processes employ systematic research methods to translate these inputs into actionable knowledge: literature reviews establish a scholarly foundation; questionnaire surveys generate quantitative data on student perceptions; interviews and focus groups provide qualitative insights into practical challenges and opportunities; and expert validation ensures the scientific rigor and feasibility of the proposed guidelines. Each process is deliberately chosen to balance breadth with depth, combining objective measurement with contextual expertise. The outputs are comprehensive and practical guidelines designed to improve the management of 3X3 basketball in universities by enhancing student participation, optimizing resource allocation, standardizing organizational structures, and promoting sustainable development. Together, this input-process-output framework ensures that the guidelines are evidence-based, context-sensitive, and adaptable to the long-term growth of 3X3 basketball in Shaanxi Province.



Methodology

Research Tools

The research was carried out using the following tools: (1) Questionnaire survey for University Students; (2) Expert interview form; (3) Focus group outline; and (4) Expert Evaluation Form.

Population and Sample

The population of this research is 3 classes with 325 freshmen students, majoring in basketball at Xi'an Physical Education University for the academic year of 2024. Through a simple sampling method, 1 class with a total of 112 freshmen students was selected as a sample. For this research, experts will be chosen using a purposive sampling method. The details of the selected experts are as follows: 3 experts were invited to evaluate the university student questionnaire and the expert interview using the Item-Objective Consistency Index (IOC). 8 experts were interviewed to draft the components of the guidelines. 12 experts conducted a focus group discussion to develop guidelines. Finally, 8 experts conducted a connoisseurship discussion to confirm the developed guidelines.

Data Collection

1. The questionnaire was distributed to 112 freshmen students, majoring in basketball, to study the current situation and problems of management of 3X3 basketball among university students.

2. 8 experts, including four basketball coaches and four university management experts, were invited for face-to-face interviews to study and collect the current situation of 3X3 basketball and the challenges encountered in its future development as a framework for guidelines. These experts were selected because basketball coaches contribute practical, sport-specific insights, while university management experts provide organizational and administrative perspectives, ensuring a comprehensive understanding of both athletic and institutional challenges in developing 3X3 basketball guidelines.

3. 12 experts, including four management experts, four basketball coaches, and four university administrators, were invited to participate in focus group discussions to formulate the guidelines to manage 3X3 basketball for university students in Shaanxi province. These experts were chosen to ensure the guidelines are well-rounded, with management experts offering theoretical and structural perspectives, basketball coaches providing technical and practical insights, and university administrators contributing institutional and policy-oriented viewpoints.

4. 8 experts, including three university leaders, three basketball teachers, and two university management experts, were invited to conduct connoisseurship discussions to discuss and confirm the appropriateness and effectiveness of the developed guidelines to manage 3X3 basketball of university students in Shaanxi province. These experts were selected to combine strategic oversight from university leaders, technical and pedagogical insights from basketball teachers, and structural and



policy expertise from university management specialists, ensuring a thorough validation of the guidelines' appropriateness.

Data Analysis

The software package was mainly used for data analysis.

1. The descriptive statistics, such as mean ($\bar{X}$) and standard deviation (S.D.), were used to analyze the questionnaire data.

2. Expert interviews, focus group discussions, and connoisseurship discussions are used in content analysis to analyze the data.

3. Evaluate the content validity of the questionnaires and interview form using the Index of Item-Objective Congruence (IOC). The IOC value of the questionnaire for university students was 0.85, and the IOC value for the interview form was 0.80.

4. The researcher applied a Likert scale to evaluate the data collected from the questionnaires, calculating the mean score for each question based on their evaluations and feedback

Results

Based on the results of this method, the findings are presented in four key sections:

Part 1: Investigate the management status and existing problems of 3X3 basketball among university students in Shaanxi Province.

Part 2: Through expert interviews, collect comprehensive insights on the management of 3X3 basketball for university students in Shaanxi Province, and draft the elements and framework of the guidelines to manage 3X3 basketball for university students in Shaanxi Province.

Part 3: Through focus group discussion, formulate the guidelines to manage the 3X3 basketball of university students in Shaanxi province.

Part 4: Confirmation of the guidelines to manage 3X3 basketball for university students in Shaanxi province.

Part 1: Investigate the management status and existing problems of 3X3 basketball among university students in Shaanxi Province

After distributing the questionnaire to 112 freshmen students majoring in basketball at Xi'an Physical Education University, all participants' answers were successfully collected. The data analysis obtained from these answers is as follows:



Table 1 The results of the questionnaire survey of the freshmen students majoring in basketball at Xi'an Physical Education University (N=112)

Questionnaire Items	Total Score		Result
	$\bar{X}$	S.D.	
1. I am satisfied with the university's basketball court	2.80	0.70	Moderate
2. How reasonable is the arrangement of 3X3 basketball games between schools?	2.50	0.80	Poor
3. Are you satisfied with the availability of basketball training equipment?	2.30	0.90	Poor
4. Whether the school can open the basketball court for daily training and games?	3.00	0.60	Moderate
5. How satisfied are you with the development time of the basketball court?	2.70	0.80	Moderate
6. Whether the school is adequately funded for basketball	2.20	0.90	Poor
7. Whether the professional guidance of basketball players can meet the daily training needs	3.50	0.70	High
8. Are you satisfied with the publicity effect of school basketball games?	2.10	0.80	Poor
9. The university regularly holds inter-school exchange competitions.	2.40	0.90	Poor
10. Whether the school's academic support measures for basketball players are effective	3.20	0.70	High
11. Whether the maintenance of basketball equipment on campus is reasonable	2.60	0.80	Moderate
12. Whether the school provides safety for basketball	3.30	0.70	High
13. How efficient is the school basketball administration department?	2.90	0.70	Moderate
14. How effective is the implementation of the management system related to school basketball?	2.70	0.80	Moderate
15. Are you satisfied with the organization and management of 3X3 basketball?	2.40	0.90	Poor
16. How feasible is the school's 3X3 basketball development plan?	3.10	0.70	High





The questionnaire analysis shows an overall mean score of 2.73 (S.D. = 0.77), reflecting moderate satisfaction with basketball management in universities. Items such as court satisfaction ($\bar{X}$ = 2.80, S.D. = 0.70), daily accessibility ($\bar{X}$ = 3.00, S.D. = 0.60), and equipment maintenance ($\bar{X}$ = 2.60, S.D. = 0.80) were rated moderate, while key areas including game arrangements ($\bar{X}$ = 2.50, S.D. = 0.80), training equipment ($\bar{X}$ = 2.30, S.D. = 0.90), funding ($\bar{X}$ = 2.20, S.D. = 0.90), publicity ($\bar{X}$ = 2.10, S.D. = 0.80), and inter-school competitions ($\bar{X}$ = 2.40, S.D. = 0.90) were rated poor, highlighting weaknesses in resources and promotion. In contrast, professional guidance ($\bar{X}$ = 3.50, S.D. = 0.70), academic support ($\bar{X}$ = 3.20, S.D. = 0.70), and safety provision ($\bar{X}$ = 3.30, S.D. = 0.70) achieved high ratings, suggesting strong institutional backing in these aspects. Overall, the findings indicate strengths in guidance, support, and safety, but significant deficiencies in facilities, funding, publicity, and inter-school activity organization that need targeted improvement. Therefore, these issues should be included in the guidelines to manage 3X3 basketball among university students in Shaanxi province.

Part 2: Through expert interviews, collect comprehensive insights on the management of 3X3 basketball for university students in Shaanxi Province, and draft the elements and framework of the guidelines to manage 3X3 basketball for university students in Shaanxi Province.

The interviews with 8 experts were designed to gather in-depth insights to draft key elements and frameworks to develop guidelines to improve the management of 3X3 basketball for college students in Shaanxi Province. Expert interviews confirmed that the POLC framework (Planning, Organizing, Leading, and Controlling) is highly applicable for guiding the management of 3X3 basketball among college students in Shaanxi Province.

In the Planning stage, strategies focus on enhancing competition frequency through league systems, aligning training with academic schedules, and establishing a three-tier talent development program supported by skill-tracking systems and comprehensive evaluations. Policy support, funding mechanisms, and signature events such as the Silk Road Collegiate Basketball League are also proposed to strengthen institutional development.

Under Organizing, the framework emphasizes establishing clear institutional responsibilities among committees, universities, enterprises, and sports departments. It also highlights team structuring through tiered training systems, specialized coaching, integrated information platforms, and competition branding with cultural elements to build recognition and sponsorship appeal.

In the Leading dimension, motivation is encouraged through promotion/relegation systems, alumni and corporate support, and targeted talent development using performance tracking.



Cultural leadership is fostered by integrating regional identity into competitions and expanding brand influence through media exposure.

The Controlling stage ensures accountability and sustainability through supervision and evaluation of training plans, safety and fairness protocols such as mandatory medical checks and referee blacklists, and dynamic adjustment mechanisms using big data analysis to refine training and selection processes. Together, these elements demonstrate that the POLC framework offers a comprehensive, structured, and adaptable management model to promote 3X3 basketball development, talent cultivation, and cultural branding across universities in Shaanxi Province.

Part 3: Through focus group discussion, formulate the guidelines to manage the 3X3 basketball of university students in Shaanxi province

Twelve experts, including four management specialists, four basketball coaches, and four university administrators, were invited to participate in structured group discussions to refine and finalize the guidelines for managing 3X3 basketball among university students in Shaanxi Province. Collectively, the experts emphasized that sustainable development requires an integrated POLC-based framework addressing resources, competitions, training, policy, culture, and technology. In terms of planning, they recommended establishing a provincial management committee to coordinate funding, facilities, and inter-university partnerships, while also standardizing competition schedules and training cycles to support long-term athlete development. For organizing, they proposed tiered talent selection systems, flexible attendance policies, and mobility-based registration to broaden access, combined with the preparation of clear operational manuals to ensure consistency. Under leading, the experts stressed the importance of cultural promotion through student unions, enterprise sponsorship, alumni networks, and the creation of a branded “Shaanxi University 3X3 Basketball League” to inspire participation and visibility. Regarding controlling, they advocated embedding 3X3 basketball into university performance assessments, providing financial rewards and dedicated funds, and ensuring accountability through structured monitoring and evaluation mechanisms. To guarantee sustainability, experts also highlighted strategies such as introducing tax incentives for sponsors, integrating modern technologies like VR training and intelligent venue management, building alliances among universities, and strengthening athlete welfare through medical and rehabilitation support. Together, these recommendations create a comprehensive roadmap to enhance student engagement, foster talent cultivation, raise competitiveness, and secure the long-term growth and impact of 3X3 basketball in Shaanxi universities. The guidelines to manage 3X3 basketball for university students in Shaanxi province were as follows:





Table 2 Guidelines to manage 3X3 basketball of university students in Shaanxi province

Management Guide for 3X3 Basketball of College Students in Shaanxi Province	
Planning	
Goal setting	1. Promote sports to increase participation rates and student participation 2. Establish a stable league system and improve the level of competition Build regional brands, participate in national competitions, and stay ahead.
core strategy	1. Use campus media and activities (cultural festivals, challenges) to attract attention 2. Make regulations. Adopt a group round + knockout system to ensure fairness and professionalism Integrate school and enterprise support to form a team of coaches and referees.
Standardized design of the management process	1. Develop a "Comprehensive Event Organization Manual" that outlines standardized procedures from university registration, qualification review, schedule planning, on-site execution, to results announcement. The manual standardizes operational protocols across all stages (including application form templates, referee work logs, and emergency response flowcharts), providing clear guidelines for implementing organizational responsibilities in subsequent phases. 2. Establish a "province-school" two-level information synchronization mechanism, requiring each university to report sports data (number of participants, training duration, etc.) every week to ensure that the management center has real-time knowledge of progress and provide a data basis for performance evaluation in the subsequent control link.
Collaborative plan for shared interests	1. Clarify the roles and responsibilities of multiple parties, including schools (providing venues and faculty), enterprises (sponsoring funds and equipment), student organizations (organizing campus activities), and management centers (coordinating overall operations). Sign collaborative agreements (such as schools guaranteeing three weekly venue openings, enterprises obtaining event naming rights, etc.) to provide contractual safeguards for the division of responsibilities in the organizing phase. 2. Formulate annual communication plans, including school-enterprise cooperation negotiation meetings and association experience exchange meetings, to ensure the alignment of objectives of all parties and lay a



Management Guide for 3X3 Basketball of College Students in Shaanxi Province

foundation for the implementation of the communication mechanism in the Leading link.

Organizing

framework	1. Provincial management center: overall planning, organizing events, and coordinating resources 2. College association/club: responsible for campus activities, team competition, and daily training 3. University Alliance: Promote inter-school communication and coordinated development
divide the work	1. Management Center: manage events, training, publicity, external liaison, and finance 2. University Association: organize campus activities, promote recruitment, and connect resources 3. Alliance: coordinate inter-school cooperation and share information
Staff	Equipped with professional coaches, referees, and staff, skills and management training are carried out regularly

Leading

encourage	1. Material: competition prize money, sports goods rewards 2. Spirit: Commend and promote, set an example 3. Development: Recommend outstanding players to participate in high-level competitions or professional trials
link up	1. Official platforms (websites and public accounts) shall publish information and open interactive sections 2. Hold regular work meetings and set up feedback channels (email, hotline, etc.)
team construction	Organize activities such as expansion and cultural exchange to create a united and fair sports atmosphere.

Controlling

Evaluate	1. Indicators: number of participants, participation rate, event quality, publicity effect, etc. 2. Regular (season/year) evaluation, combined with data and feedback to form a report
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Management Guide for 3X3 Basketball of College Students in Shaanxi Province

Risk Management	1. Identify risks such as competition, safety, staff loss, and capital shortage 2. Make plans: strengthen safety management, improve the incentive mechanism, and broaden funding channels
improve	Adjust strategies and optimize management processes according to the evaluation results; encourage innovation, promote effective experience, and continuously improve the quality of sports development.

Part 4: Confirmation of the guidelines to manage 3X3 basketball for university students in Shaanxi province

A connoisseurship discussion was conducted with a panel of eight experts, comprising three university administrators, three basketball coaches, and two management specialists. These experts were selected for their professional knowledge and extensive experience in university governance, basketball training, and management systems. The discussion provided a platform for critical review, enabling the experts to evaluate the guidelines from both practical and theoretical perspectives. The panel carefully examined the structure, content, and proposed strategies, focusing on their alignment with the POLC (Planning, Organizing, Leading, Controlling) framework and their adaptability to the regional and institutional context of Shaanxi universities. The experts unanimously agreed that the guidelines are comprehensive, well-structured, and consistent with the POLC framework. They emphasized that the guidelines offer balanced strategies addressing key areas of 3X3 basketball management, including resource allocation, competition systems, talent cultivation, and cultural promotion. Furthermore, the experts confirmed that the recommendations are feasible to implement in universities, practical in addressing current challenges, and adaptable to varying levels of institutional capacity.

Summary

The validation results affirm that the developed guidelines are both practical and effective in meeting their intended objectives. By ensuring alignment with established management theory and responding to the contextual realities of Shaanxi Province, the guidelines provide a reliable and scientifically grounded framework to support the sustainable development of 3X3 basketball among university students.

Conclusion

After validation using the connoisseurship method, all eight experts unanimously agreed that the developed guidelines provide a comprehensive and practical framework for managing 3X3 basketball among university students. The guidelines to manage 3X3 basketball for university



students in Shaanxi province were as follows: (1) Planning comprises four elements: goal setting, core strategy, management process standardization, and collaborative planning based on shared interests. (2) Organizing comprises three elements: framework, division of labor, and personnel allocation. (3) Leading comprises three elements: motivation, communication, and team collaboration. (4) Controlling comprises three elements: evaluation, risk management, and continuous improvement.

Discussion

The guidelines to manage 3X3 basketball among university students in Shaanxi Province are designed to establish standardized management protocols that address existing challenges while promoting long-term development of the sport. Planning is emphasized as the foundation, focusing on four elements: goal setting, core strategies, standardized management processes, and collaborative planning among universities and sports departments. This directly tackles fragmented competitions and resource allocation issues, providing a structured roadmap for sustainable development. Experts noted its alignment with the PMI's Planning Performance Domain (PMI, 2021), which stresses the integration of objectives, strategies, and stakeholder collaboration to reduce uncertainty. Unlike PMI's broader organizational applications, however, this study adapts collaborative planning specifically to the higher education sports system, where multiple layers of authority, such as provincial education departments, university administrations, and sports faculties, must coordinate to ensure alignment between policy and practice.

The organizing component emphasizes three pillars: framework design, division of labor, and personnel allocation, ensuring efficient resource integration and clear responsibilities. This reflects Colquitt et al.'s (2020) principles of effective organizational structure but is uniquely adapted to the hierarchical nature of sports management in universities. For instance, responsibilities are divided not only vertically across administrators, coaches, and student organizations but also horizontally across inter-university alliances, requiring coordination between academic units and athletic departments. By embedding accountability within these hierarchical layers, the guidelines ensure clarity in decision-making and effective resource use.

The leading and controlling functions are highlighted as critical for execution and sustainability. Leadership involves motivation, communication, and team collaboration, operationalized through reward systems, communication channels, and training programs that strengthen stakeholder cohesion. While these resonate with Goleman's (2017) leadership theory, the framework situates them in a performance-driven sports context, where incentives are tied to competitive outcomes and institutional recognition rather than emotional intelligence alone.





Meanwhile, the controlling function integrates performance evaluation, risk management, and continuous improvement to guarantee systematic oversight. Drawing on Kaplan and Norton (2023), the model expands evaluation beyond single performance metrics to include competition outcomes, participation levels, safety, and skill development. This multidimensional evaluation enhances scientific rigor while ensuring that the guidelines support standardized, professional, and sustainable management of 3X3 basketball across Shaanxi universities.

Recommendation

Recommendation for current research

Collaborate with professional institutions for coaching programs, establish online resource repositories, and enhance competitiveness.

Incorporate it into curricula and student clubs, provide skills and officiating training, and foster participatory basketball culture through campus activities.

Recommendation for further research

Develop customized strategies for different levels and types of institutions (facilities, student engagement, management models) to enhance the practicality of guidance guidelines.

Explore applications of digital tools like online registration, live streaming, and data analytics. Investigate how mini-programs and integrated platforms simplify processes, improve operational efficiency, and boost audience engagement.

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