

# Promotion and Management of Sports Intangible Cultural Heritage: Conceptual Design of Virtual Settlements for the Transmission of Sports Intangible Cultural Heritage in Universities

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## ABSTRACT

As a comprehensive form of ethnic culture, sports intangible cultural heritage (ICH) maintains a close and interdependent relationship with other cultural systems in its surrounding environment, constantly interacting with them. It functions as an open cultural system that freely exchanges material and information with the outside world. Settlements serve as a complex form aimed at cultural protection and transmission. Universities, due to their natural role in education and research, have an inherent connection with the transmission and dissemination of sports ICH, making them ideal places to practice virtual settlements. These virtual settlements facilitate the creation of multidimensional social, cultural, and economic links, triggering a "chain effect" for sports ICH protection. This paper systematically analyzes the construction, management, and promotion of virtual sports ICH transmission settlements within universities. The research approach and analytical results presented hold significant value for practical application and promotion, offering valuable insights into the transmission and development of sports ICH in the digital environment.

**Keywords:** *Sports intangible cultural heritage, Virtual settlement, Sports management.*

## 1. INTRODUCTION

The concept of "virtual settlement" represents an important exploration in developing methods and ideas for the construction of sports intangible cultural heritage (ICH) transmission and protection bases. It addresses two key issues: the "virtual" aspect compensates for the lack of social interaction through digital means, such as the collective absence of participants, insufficient creation of interactive contexts, and significant intergenerational differences in symbolic identity. The "settlement" refers to a combination of both online and offline environments—a blend of reality and virtual form. It incorporates the comprehensive functions of traditional settlements while extending these into the virtual realm. This virtual extension compensates for the limitations of real-world settlements in areas such as cultural dissemination and database management.

In 2021, the Opinions on Promoting the High-Quality Development of the Digital Culture Industry issued by the Ministry of Culture and Tourism explicitly emphasized fostering new formats of the digital culture industry and promoting the digitization of outstanding cultural resources, while encouraging universities and research institutes to create application scenarios for the digitalization of the cultural industry.[1] That same year, the Notice on the Fourteenth Five-Year Plan for the Development of the Digital Economy issued by the State Council proposed breaking down spatial barriers through digitization to improve the accessibility of limited resources, providing strong policy support for this concept.[2] In 2024, Wu Yinghui and Yuan Xi published the paper Exploring the Path of Digital Intelligence in the International Communication of Modern Chinese Civilization (Research on Educational Technology), which discussed the role and pathways of digital intelligence in promoting

Chinese culture, offering valuable insights for the construction of virtual settlements in this research.[3] In July 2024, Neijiang Normal University's research on A Method for the Digitalization of Intangible Cultural Heritage was granted a patent (Patent No. CN118332615A), with Li Wei as the inventor. This work utilizes digital technology for the protection and documentation of intangible cultural heritage.[4] Also in July 2024, Central China Normal University's research on Cross-modal and Multilevel Analysis Methods and Systems for Digital Teaching Resources was awarded a patent (Patent No. CN118332448A), with Wang Zhifeng, Lu Zixin, and others as inventors. Their achievement establishes a database of teaching resources and uses neural networks to perform cross-modal, multilevel analysis of digital resources.[5] These studies provide important references for this project. Internationally, New Zealand scholars Liew Chern Li, Goulding Anne, and Nichol Max published From Shoeboxes to Shared Spaces: Participatory Cultural Heritage via Digital Platforms[6]; Danish scholar Bjarki Valtysson authored From Policy to Platform: The Digitization of Danish Cultural Heritage[7]; and Portuguese scholar Silva Gonçalo Melo da and others released ROSSIO Infrastructure: A Digital Humanities Platform to Explore the Portuguese Cultural Heritage. These studies aim to use metadata aggregation solutions to organize and connect social science information from higher education and cultural institutions, creating virtual platforms for digital resources.[8]

## **2. THE PROPOSAL OF THE "VIRTUAL" CONCEPT TRIGGERED BY THE ABSENCE OF PRESENCE**

In September 2023, Professor Wang Hongkun from the School of History and Culture at Chengdu Sport University published a paper titled Social Interaction Construction: Solutions to the Bottlenecks in the Transmission of Traditional Ethnic Sports Culture in the Journal of Hebei Institute of Physical Education. He argued that the primary obstacle in transmitting traditional ethnic sports culture lies in the lack of social interaction, specifically caused by the collective absence of participants, insufficient creation of interactive contexts, and significant intergenerational differences in symbolic identity. The concept of constructing a "virtual settlement" for sports intangible cultural heritage (ICH) aims to break these "field limitations." The goal is to cultivate the

ecological system necessary for the growth of sports ICH by building settlements that provide a nourishing cultural environment. By fostering individual settlement units, the vision is to gradually form interconnected settlements, creating an "ecological archipelago" of settlements, which would ultimately trigger a chain effect across different regions, thereby achieving a living protection pathway for sports ICH from urban to rural areas. The "virtual" element is both a fundamental and critical stage in realizing the interactive effect between urban and rural "ecological islands" and "ecological archipelagos."

Virtual reality serves as the core mechanism in transitioning from a "settlement" to a "community" of sports ICH. With its advantages of transcending spatial limitations, offering diverse dissemination pathways, and a wide range of influence, virtual reality compensates for the spatial barriers that limit the offline promotion of sports ICH. This is particularly significant for regions rich in local culture, where unique sports cultural heritage exists in different areas. Interaction and communication between various cultural types can be effectively facilitated through virtual spaces. Moreover, virtual spaces act as data repositories for diverse cultures, aggregating essential data on various types of cultural heritage from different regions into a digital virtual platform for sports ICH. This is of great social value for both academic research and societal services. In this way, the "virtual sports ICH settlement" will become a vital link between urban and rural areas, and between the virtual and real worlds. It will serve as an effective framework for concretizing sports ICH culture and offer an efficient pathway for cultural promotion, dissemination, and management.

## **3. FROM SETTLEMENT TO COMMUNITY IN VIRTUAL REALITY: A SPORTS INTANGIBLE CULTURAL HERITAGE MANAGEMENT FRAMEWORK BASED ON UNIVERSITIES**

The concept of settlement refers to the living environment consciously developed and modified by humans for survival.[9] In ancient China, the term "settlement" often referred to villages, as mentioned in the Book of Han, where settlements symbolized vitality and peace. The modern concept of urban settlements evolved from agricultural societies, and the virtual settlement shares similar

cultural connotations with physical settlements, providing a historical perspective on intangible cultural heritage (ICH). Settlement also represents cultural resilience and stability. For example, Zhang Binglin's \*On the Five Negations\* emphasizes that "although the national borders may be broken, the settlements remain intact," illustrating how settlements embody cultural unity more strongly than geographical attachments. This cultural resilience is aligned with the goals of transmitting and preserving sports ICH. As a vital component of cultural heritage, sports ICH benefits from transmission and promotion within universities, creating a "synergistic effect" between universities and sports ICH. This not only supports the development of sports activities but also aids in the research, transmission, and dissemination of sports heritage.

The "virtual settlement" serves as an ecological base for the living development of sports ICH in a modern urban environment. Culturally, it carries similar meanings to the traditional Chinese concept of settlements. However, unlike physical settlements, virtual settlements transcend spatial constraints. These settlements, built on digital platforms, incorporate various functions such as interaction, exhibition, research, and meetings, thereby breaking field limitations. By creating a virtual "sports ICH ecological island," isolated entities can be connected to form an "ecological archipelago," with the chain effect ultimately leading to the development of a "sports ICH ecological community" in the virtual environment. Universities play a pivotal role in this process, serving as hubs that integrate sports ICH "islands" through virtual platforms. Over time, these virtual settlements could evolve into interconnected networks across multiple campuses, fostering an "island chain" effect. This development would solidify the ecological environment for the virtual transmission of sports ICH, enabling its "grid-like" collaborative development. The "virtual sports ICH settlement" is not merely a compromise between urban and rural areas; it reflects the demand for constructing collaborative and innovative spaces, fulfilling the need for living cultural transmission.

Universities are the ideal venues for the operation of sports ICH. As connectors, they can help transform individual "islands" into a digital-intelligence sports ICH settlement community. Universities naturally align with the transmission and dissemination of sports ICH, making them ideal sites for practicing virtual settlements. Supported by university management systems and

academic disciplines, resources can be drawn upon for research, teaching, and talent cultivation in sports ICH. The maturity of educational and research conditions in universities makes the construction of virtual transmission bases feasible. Through the formation of sports ICH settlements within universities, protection efforts and talent development, particularly in cultivating younger generations, can be nurtured.

Taking Hubei as an example, based on the distribution of sports ICH and higher education institutions, Wuhan Sports University has long been committed to excavating and researching sports-related ICH, particularly in traditional martial arts, folk sports games, and traditional fitness culture. The university also houses the Hubei Province Intangible Cultural Heritage Research Center, focusing on traditional sports culture in Hubei and beyond. Similarly, South-Central University for Nationalities has conducted systematic research on the protection and transmission of ethnic minority traditional sports, such as crossbow shooting among the Miao people and the flower-boat stepping game of the Tujia people, as well as the performance, promotion, and transmission of these traditional sports. The construction of ICH settlements in universities, led by high-quality platforms from academic institutions like Wuhan Sports University, China Three Gorges University, Hubei Normal University, and South-Central University for Nationalities, forms a settlement cluster. Local universities are familiar with the regional cultural heritage and possess extensive research experience. Through a digital-intelligence virtual platform, the establishment of a cultural heritage database supports research by educational and academic institutions while enabling collaborative interaction among local sports ICH cultures and promoting the effective flow of sports ICH and cultural tourism resources.

Universities' natural connection to the education, research, transmission, and dissemination of sports ICH makes them ideal for the implementation of virtual settlements and a prerequisite for the realization of the "digital-intelligence sports ICH settlement" concept. On the one hand, policy support is crucial. In recent years, various regions have proposed integrating sports ICH into schools, with the Ministry of Education emphasizing the importance of cultivating talent for ICH transmission as a national strategy. The Ministry has fully promoted the inclusion of ICH expertise in the national education system and school aesthetic programs. According to Xinhua Daily, the

integration of ICH sports projects into university physical education courses has become a highly regarded educational reform. These ICH sports projects, as valuable historical and cultural assets of the Chinese nation, carry deep historical and cultural significance. Integrating them into university curricula not only enhances students' physical fitness but also enriches physical education and promotes local economic development.

#### **4. KEY ISSUES IN CONSTRUCTING A "VIRTUAL SPORTS INTANGIBLE CULTURAL HERITAGE SETTLEMENT" BASED ON UNIVERSITIES**

##### ***4.1 Offline Platform Support***

The construction of a virtual sports intangible cultural heritage (ICH) settlement does not negate the necessity of offline platforms. 3.1.1 University as the Support System: Universities serve as the foundation for research, dissemination, and transmission of sports ICH through offline platforms. High-level management and academic infrastructure contribute to the healthy development of the online virtual sports ICH platform. 3.1.2 Virtual Platform Foundations: Two essential tasks are required for the successful establishment of a virtual platform: First, Technological Innovations: Developing the necessary technical capabilities for the virtual platform. Second, Ongoing Research and Cultural Exploration: A dedicated research team must continuously engage in the study and excavation of sports ICH to provide authentic content for the virtual platform. Sports ICH can be categorized into four major types: traditional martial arts, traditional ball sports, traditional competitive games, and traditional folk sports activities. The State Council has already announced 109 national-level representative sports ICH projects across five batches.

##### ***4.2 Practical Pathways***

###### ***4.2.1 Academic Development***

In line with the cultural policies of the Chinese government since the 20th Party Congress, the project focuses on constructing digital-intelligence sports ICH settlements within universities as part of broader efforts to enrich traditional Chinese culture.

###### ***4.2.2 Disciplinary Positioning and Planning***

Sports ICH protection intersects with sports management disciplines. The study of "Constructing Digital-Intelligence Sports ICH Settlements" emphasizes the integration of theory and practice, with the goal of building platforms to cultivate professionals specializing in sports ICH research and protection.

###### ***4.2.3 Curriculum Reform***

The project promotes a teaching system that combines foundational research with modern educational tools such as Massive Open Online Courses (MOOCs), online lectures, and virtual reality, ensuring a comprehensive approach to the transmission and education of sports ICH.

###### ***4.2.4 Cultivating Cultural Confidence***

It is essential to foster a value-driven approach that guides the transmission and dissemination of sports ICH, aiming to realize the societal value of China's traditional sports heritage.

###### ***4.2.5 Research Platforms and Facilities***

The advantages of digital research platforms should be fully leveraged to integrate research with teaching, fostering a cross-disciplinary system that connects academic research with industrial application in sports ICH.

###### ***4.2.6 Academic Exchange and Collaboration***

Virtual platforms offer significant advantages in facilitating academic exchanges by reducing the barriers of physical space, enhancing database construction, and enabling resource sharing across institutions, which greatly benefits research.

###### ***4.2.7 Team Building***

Universities have a natural connection to the education, research, transmission, and dissemination of sports ICH, making them ideal environments for the development of virtual settlements. By assembling multidisciplinary teams, universities can effectively combine research and education efforts, ensuring the continuous growth and protection of sports ICH.

## **5. FEASIBILITY AND ESTABLISHMENT OF A LONG-TERM MECHANISM FOR IMPLEMENTING VIRTUAL SPORTS INTANGIBLE CULTURAL HERITAGE SETTLEMENTS ON UNIVERSITY PLATFORMS**

### **5.1 University Platform Advantages**

The established teaching and research frameworks of universities provide strong feasibility for constructing virtual transmission bases for sports intangible cultural heritage (ICH). Taking Wuhan Sports University as an example, its current academic and research strengths offer a solid foundation. Wuhan Sports University boasts a first-level doctoral program in Ethnic Traditional Sports and a second-level doctoral program in Ethnic Traditional Sports, as well as a master's program in the same field. At the undergraduate level, the university offers programs in Wushu Routines, Sanda (Chinese kickboxing), and Chinese Wrestling. Additionally, the university has co-founded the Chinese Dragon and Lion Dance Academy with the China Dragon and Lion Dance Association, and it hosts national training and research bases for Wushu Sanda, the Dragon and Lion Dance, and the Wudang Martial Arts Research Center. It is also a national-level center for Wushu talent development and the lead institution for creating textbooks and online courses in Wushu and Ethnic Traditional Sports for the General Administration of Sport of China. This established academic infrastructure, particularly in the intersecting fields of Wushu and ethnic traditional sports, positions Wuhan Sports University to significantly contribute research capacity to a sports ICH virtual settlement. The university's Data Science and Big Data Technology program can also provide technical support for the creation of a virtual ICH platform. Moreover, the teaching and research resources of other local universities, along with their faculty expertise, offer valuable real-world assets for building virtual sports ICH transmission bases. These institutions can not only advance research on sports ICH but also seamlessly integrate talent cultivation into their educational missions.

### **5.2 Establishing a Long-term Mechanism for Virtual Sports Intangible Cultural Heritage Settlements**

#### **5.2.1 Social Influence Mechanism**

Virtual settlements can raise public awareness and interest in sports intangible cultural heritage, fostering cultural transmission and increasing social cohesion. They can also revolutionize education and learning, enabling remote learning and cultural experiences.

#### **5.2.2 Cultural Influence Mechanism**

Virtual settlements provide a platform for the preservation and promotion of endangered or extinct sports cultural forms. This environment encourages cultural innovation, allowing artists and creators to explore new forms of sports heritage in virtual environments. They also influence cultural values and identity, particularly for younger generations.

#### **5.2.3 Economic Influence Mechanism**

The digital transformation of the tourism industry can provide new revenue streams for regions rich in sports intangible cultural heritage. This includes creating jobs in areas such as virtual reality content production, platform maintenance, and data analysis. Combining culture with commerce could lead to the development of related products and services.

#### **5.2.4 Policy Influence Mechanism**

Government policies and funding are crucial for establishing and maintaining virtual settlements. Legal frameworks, including intellectual property protection, data security, and privacy safeguards, will be necessary. Additionally, international cooperation and exchange can facilitate the global sharing and protection of sports intangible cultural heritage.

#### **5.2.5 Technological Influence Mechanism**

Technologies such as virtual reality (VR) and augmented reality (AR) allow users to experience cultural heritage in immersive ways. Digital technology and 3D modeling enable accurate replication and preservation of heritage, while cloud computing and big data analytics allow researchers and the public to access and analyze

large volumes of sports intangible cultural heritage data.

## 6. CONCLUSION

Urban and rural cultural ecosystems differ significantly. Traditional sports intangible cultural heritage, which relies on human presence and physical spaces as performance mediums, struggles to adapt to the digital and network environment. However, this new communication environment offers opportunities for the transmission, dissemination, and dynamic preservation of sports intangible cultural heritage. In terms of cultural transmission and dissemination, digital technology allows for the limitless expansion of virtual spaces, breaking the limitations of human presence and physical spaces as carriers of activities. Dynamic transmission is the hallmark of vitality for sports intangible cultural heritage, and dynamic preservation is the fundamental means of achieving its protection. The transmission of sports intangible cultural heritage is inseparable from various media, including physical, symbolic, and communication media, all of which provide the conditions for its dynamic transmission. Among them, the body as a medium is particularly important; the physical presence and embodied knowledge confirm the effectiveness and sustainability of the dynamic transmission of sports intangible cultural heritage. However, with the evolution of media technology, the physical presence of inheritors has become absent, or they can only be remotely or virtually present, weakening the traditional transmission context built on conventional societies and limited physical spaces, thereby diminishing the dynamic transmission of sports intangible cultural heritage. In the intelligent era, the integration of humans and media technology becomes increasingly close, and human-machine fusion has become the new norm, inevitably shaping new modes of dynamic transmission for sports intangible cultural heritage.[10]

The growth state of sports intangible cultural heritage is closely related to social structures. A stable social structure is conducive to the preservation and development of sports intangible cultural heritage. Within agricultural or primitive social forms (ethnic minority regions), the transmission of most sports intangible cultural heritage faces no difficulties. Many forms of folk art, now recognized as "intangible cultural heritage," originated and developed naturally from these ecological conditions. The act of transmission

was a naturally occurring phenomenon. As society evolves, changes in the social environment where the culture originated cause the original cultural context to become what is now termed "heritage," leading to incompatibility between cultural heritage and the evolving social environment. This manifests in the obstacles and difficulties in cultural transmission and dissemination. If sports intangible cultural heritage cannot adapt to these changes, it will gradually wither as the urbanization of its place of origin progresses.

## REFERENCES

- [1] Ministry of Culture and Tourism of the People's Republic of China. Opinions of the Ministry of Culture and Tourism on Promoting the High-Quality Development of Digital Culture Industry [EB/OL](2020-11-17)[2024-08-20]  
[https://www.gov.cn/zhengce/zhengceku/2020-11/27/content\\_5565316.htm](https://www.gov.cn/zhengce/zhengceku/2020-11/27/content_5565316.htm).
- [2] State Council of the Communist Party of China Central Committee. Circular on the 14th Five-Year Plan for the Development of the Digital Economy [EB/OL](2022-01-12)[2024-08-20]  
[https://www.gov.cn/zhengce/zhengceku/2022-01/12/content\\_5667817.htm](https://www.gov.cn/zhengce/zhengceku/2022-01/12/content_5667817.htm).
- [3] Wu Yinghui, Yuan Xi. A Study on the Digital Intelligence Path for International Communication of Modern Chinese Civilization [J]. Research on Electrochemical Education, 2024, 45(04): 123-128. DOI: 10.13811/j.cnki.eer.2024.04.018.
- [4] Li Wei. A method for digitizing intangible cultural heritage [P]. Sichuan Province: CN202410492225.7, 2024-07-12.
- [5] WANG Zhifeng, LU Zixin, ZENG Chunyan, et al. A cross-modal multilevel analysis method and system for digital teaching resources [P]. Hubei Province: CN202410457641.3, 2024-07-12.
- [6] Li C L, Anne G, Max N. From shoeboxes to shared spaces: participatory cultural heritage via digital platforms[J]. Information, Communication & Society, 2022, 25(9): 1293-1310.
- [7] Valtysson B. From policy to platform: the digitization of Danish Cultural Heritage[J].

International Journal of Cultural Policy,2015,23(5):545-561.

- [8] Da M G S, Celeste A G, Sofia Â S, et al. ROSSIO Infrastructure: A Digital Humanities Platform to Explore the Portuguese Cultural Heritage[J]. Information, 2022,13(2):50-50.
- [9] Zhou Lijun. Research on the Forms of Traditional Chinese Folk Houses [M]. 2017 Page 2.
- [10] Sun Facheng. From Embodied Practice to Intelligent Embedding: A New Direction for the Living Transmission of Afro-Heritage in the Evolution of Media[J]. Folk art,2024, (02): 108-115.DOI: 10.16564/j.cnki.1003-2568.2024.02.010.