

Original Paper

The Reproduction and Dissemination of Traditional Architectural Symbols in Online Games

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Abstract

In this era of digital intelligence, games, which are widely regarded as the ninth art, bear the crucial responsibility of spreading China's fine traditional culture. Just like after games like Black Myth: Wukong became popular, the traditional architectural elements in the games have become a point of particular public concern and have sparked many discussions. From the perspective of semiotics, traditional architecture is a key part of game scene construction. It breaks the limitations of architectural culture dissemination in terms of time and space through indicative, iconic and symbolic forms. As a result, the content of architectural symbols becomes richer, the interaction between players and architectural elements increases, and communication among players is also promoted. In the practical approach of disseminating Chinese architectural cultural symbols through online games, it is necessary to integrate the game content with architectural elements. The purpose of doing so is to make the unique charm of this culture more prominent and enhance the communication ability.

Keywords

Online games, Traditional architecture, Symbolic representation, Cross-cultural communication

1. Introduction

As a novel cultural carrier and dissemination platform, online games have increasingly become a significant domain for cultural exchange and understanding among nations worldwide. The State Council's 2022 the 14th Five-Year Plan for Culture Development encourages cultural institutions and netizens to engage in more cultural expression and creation through games. The 2023 Notice on Implementing the High-Quality Publishing Project for Online Games issued by the National Press and Publication Administration emphasizes the development of knowledge-rich and engaging game works centered on promoting traditional cultural knowledge, integrating traditional cultural elements to fully

realize their educational and cultural enrichment functions. In 2024, the State Council's Opinions on Promoting High-Quality Development of Service Consumption explicitly mentions enhancing the quality of online games within the Stimulating Improved Consumption Vitality—Cultural and Entertainment Consumption section, marking the first inclusion of online games in a national-level policy document and underscoring the state's support for the gaming industry. These policies provide top-level design support for integrating games with traditional culture, laying a policy foundation for the practical significance of this research.

Traditional Chinese architecture serves as a key symbol of Chinese civilization, with its cultural value widely recognized globally. Taking the Traditional Chinese Timberwork Building Techniques as an example—a practice inscribed on UNESCO's Representative List of the Intangible Cultural Heritage of Humanity—this technique, through core components such as timber structure and joinery work, has nurtured world-class cultural heritage sites like the Forbidden City and the Temple of Heaven. It also collaborates with linear spatial configurations such as the Beijing Central Axis, inscribed on the UNESCO World Heritage List in 2023, to collectively establish paradigms of Eastern urban planning. However, two major challenges persist in disseminating traditional architectural culture. First, physical architectural heritage is constrained by spatial limitations and incompatible with contemporary lifestyles. Second, traditional dissemination forms such as documentaries and museums fail to align with the cultural cognition preferences of youth—the primary demographic for inheriting traditional culture. A 2018 survey by China Youth Daily among 2,007 young respondents revealed that 88.8% pay attention to traditional cultural elements in video games, while 86.6% favor games incorporating such elements. The 55th Statistical Report on Internet Development in China indicates that as of December 2024, China's internet users reached 1.108 billion, with 31.1% aged 20-39. This substantial demographic seeks immersive, interactive cultural experiences, starkly contrasting with the static, two-dimensional dissemination status of traditional architectural culture.

Given this context, this study adopts online games as its research object, investigating how traditional architectural elements transform into symbols and achieve cross-cultural dissemination. It aims to identify feasible approaches, thereby providing theoretical foundations and practical guidance for the innovative development of cultural heritage in digital environments.

2. Literature Review

The international academic community has widely acknowledged the academic value of digital games as cultural transmission carriers. Research on the integration of architecture and traditional culture began relatively early, with most current studies focusing on the technical implementation of Western architectural styles and the universal applicability of cultural symbols. These research outcomes provide methodological references for the digital transformation of traditional Chinese architectural symbols. Lijun Wang and Xia Dou emphasized that scene design is pivotal in constructing the virtual

space of digital games, requiring the integration of historical-cultural contexts and artistic techniques to enhance player immersion. The study *Game Scene with Chu (Ancient Place Name) Art Characteristics Produced by 3D Technology* highlights that scene design, as a spatiotemporal visual art, underscores the significance of blending diverse cultural elements to create regionally distinctive game scenes.

Domestic scholarship has yielded abundant results in integrating traditional culture with games. Most literature either explores macroscopic transmission pathways of traditional culture or focuses on the gamification of specific cultural symbols such as costumes, cuisine, and music. However, research on traditional architecture remains nascent, with limited literature available. In the context of integrating traditional culture into game design styles, Yingbo Du (2015) advocates deep integration between online games and traditional ethnic cultures, proposing the transmission of Chinese cultural spirit and emotion through adopting traditional Chinese architectural forms, the combination of three religions philosophy, and metaphysical essence. Changchun Huang (2020) notes the insufficient ethnic style in China's game design industry, arguing that incorporating traditional Chinese architectural elements into scene design aids in shaping a unique Chinese game style, with some domestic games already implementing such practices. Qin Wang (2022) analyzes the application and functions of ancient Chinese architectural elements in game scenes, proposing measures such as enhancing designers' cultural literacy and innovating gameplay mechanics, thus providing practical strategies for integrating traditional culture into game architecture design and promoting the representation and transmission of traditional cultural symbols in online games.

Regarding the representation of diverse architectural styles in games, Mina Zhu (2017) specifically examines the design and presentation of Hui-style architecture in online games. Games such as *Age of Wushu* and *X-GAME* concretely manifest Hui-style architectural structures, color schemes, and construction philosophies, facilitating the transmission of Hui culture while offering empirical cases for the innovative transformation of regional architectural features in digital scenarios. Qian Sun (2020) emphasizes that scene design in Xianxia games should integrate traditional Chinese blue-green landscape painting techniques, architectural forms, and spatial layout concepts, adhering to specific design principles to accentuate Chinese architectural characteristics. This approach also requires rigorous expression of traditional architectural logic to deepen players' understanding of Chinese traditional culture and historical architecture during gameplay.

From the perspective of cultural transmission through games, Shuixia Qi (2018) identifies online games as critical vectors for transmitting Chinese traditional culture, citing examples like *Fantasy Westward Journey* that showcase cultural charm through scene modeling. However, challenges such as excessive entertainmentization, homogenization, and vulgar violence necessitate multifaceted governance. Hongmei Jia and Jingyi Mao (2023) categorize game architectural scenes into fully fictional, semi-fictional, and real-environment reconstructions, as exemplified by *Canal Towns* which embodies Chinese architectural culture. They further note that game scene design can provoke reflections on

real-world urban design, foster heritage tourism through offline-online linkages, and advance the localization of domestic games.

Overall, existing research exhibits two main limitations: most studies focus on Xianxia and Wuxia genres, neglecting other cultural scenarios, and predominantly employ qualitative methods while lacking player-feedback-based quantitative research.

3. Traditional Architecture in Online Game Design: Symbolic Representation

Charles Sanders Peirce categorized symbols into three types based on their relationship with the object: indexical, iconic, and symbolic. In *Semiotics principles & problem*, Yi-Heng Zhao defines a symbol as a perception carrying meaning, pointing out that it serves as an intermediary and carrier for information dissemination and preservation, constructing a shared cultural meaning space. All things can be expressed through symbols, and architecture is no exception. Architectural semiotics indicates that the architectural form is essentially a unity of signifier-signified. This means that the form of architecture (as the signifier) always points to a specific meaning (the signified). Under this framework, when traditional architectural elements are incorporated into online games, they not only create a unique Chinoiserie visual identity but also construct a virtual Wuxia style scene where players coexist. These digital scenes provide possibilities for the perception and interactive dissemination of excellent traditional Chinese culture, allowing players to feel and comprehend the cultural values carried by traditional architecture in the virtual world.

3.1 Indexical Signs

Indexical symbols (also known as index symbols) facilitate players' comprehension of environmental layouts and narrative backgrounds in games through causal relationships or spatial contiguities between architectural forms and their functional meanings. These symbols primarily direct players' movement and orientation through architectural visual cues. On one hand, game designers extract core functions of traditional architecture (administration, education, transportation) and transform them into interactive mechanisms: The Yamen (government office) acts as the operational nerve center for quests, the Shuyuan (academy) constitutes the primary pedagogical facility for skill acquisition, and the Courier Station is structurally reconceptualized into a nodal teleportation point. For instance, in *Justice Online*, the Kaibao Temple Tower replicates landmarks of Northern Song Dongjing City with proportional accuracy, converting its height advantage into player map positioning coordinates; marketplaces are reconstructed into economic-social domains through ancient transaction timing rules, achieving digital regeneration of cultural functions. On the other hand, in spatial narration, traditional architectural sequences (axial symmetry, ritual orientation) form implicit rule systems through path restrictions. *Black Myth: Wukong* employs hierarchical classification of archway forms (number of layers of bracket system, column style variations) to denote level weights, reproducing the form-as-ritual order logic of traditional architecture. Additionally, Architectural elements function

as narrative triggers, establishing a gamified learning mechanism through a chain of Semiotic Activation - Behavioral Feedback - Meaning Generation. Within this framework, the Government Office (Yamen) serves as the quest hub, the Academy (Shuyuan) operates as the skill acquisition center, and the Courier Station (Yizhan) is reimagined as a transportation node. In *Genshin Impact*, the fractured design of the long pavilion suspension bridge enforces path selection, simultaneously activating regional historical narrative fragments. This transforms spatial exploration into a cultural decoding process, enabling situational transmission of traditional culture.

3.2 Iconic Signs

Iconic signs refer to symbols that exhibit iconic similarity between their signifier and referent, representing real or virtual objects in a concrete form. For instance, pine, bamboo, and plum blossoms symbolize nobility and integrity, while dragons, phoenixes, and qilins imply auspiciousness, enhancing both the aesthetic value of architecture and establishing a dialogic relationship between nature, history, and culture. On one hand, game design employs digital technology for creative transformation of traditional patterns, balancing historical authenticity with artistic expression while strengthening visual tension. In *Honor of Kings: World*, cloud patterns are deconstructed into dynamic fluid decorations for walls; *Moonlight Blade* reconstructs Song Dynasty palace screens with landscape painting techniques; and *Tianxia 3* employs three-dimensional carving to enhance the solemnity of lion-and-cloud reliefs. Simultaneously, traditional patterns are reconfigured into game-exclusive symbols, such as transforming thunder patterns into skill effect bases, preserving cultural genes while forming unique visual languages. On the other hand, architectural appearance and structure serve as vital carriers of iconic signs. High-precision modeling precisely reproduces concrete features of traditional architecture (e.g., tiered bracket system, upturned eaves), whose forms inherently constitute an iconic symbolic system. Structural elements like the interlocking relationships of mortise-and-tenon wooden joint structure and geometric patterns of caisson ceilings not only embody engineering wisdom but also visually translate cultural symbols.

3.3 Symbolic Signs

Symbolic signs refer to symbols that reflect a conventional relationship between form and content. For example, in traditional architectural ornamentation, dragons and phoenixes are commonly used to symbolize emperors and empresses. Such symbolic systems transform abstract concepts like political institutions and philosophical ideas into tangible cultural expressions. Games reconstruct and recombine these symbolic logics to imbue them with new meanings. For instance, in *Honor of Kings*, the Gaoque architecture integrates the triple-tiered platform foundations and upturned eaves with animal decorations from Qin-Han dynasty palaces, not only restoring historical styles but also transforming imperial symbols into in-game representations of ruling power. Games further enhance cultural transmission through architectural spatial metaphors and interactive design. *Black Myth: Wukong* employs the tiered structure of pagodas to metaphorically suggest the spiritual path of

overcoming inner demons, with its architectural forms resonating with Buddhist Mount Sumeru imagery. *Canal Towns* integrates the concept of harmony between heaven and mankind into the feng shui settings of the bronze statue of Xuanwu (the Black Warrior, a mythical tortoise-snake deity), translating it into architectural layout rules. As players adjust building orientations, they naturally grasp traditional cosmological views. This establishes an interactive model of symbolic comprehension-practical operation, shifting cultural heritage from passive preservation to active innovation and achieving the integration of individual experience with collective cultural identity.

Table 1. The Multi-level Dissemination Mechanism of Traditional Architectural Symbols

Dimension	Indexical Signs	Iconic Signs	Symbolic Signs
Signification Logic	Similarity	Correlation	Convention
Player's Mode of Perception	Direct Visual Reception	Behavior Guidance & Logical Reasoning	Cultural Association & Metaphorical Interpretation
Cultural Penetration Level	Surface-level Cognition (What it is)	Mid-level Rules (How to use it)	Deep-level Meaning (Why it is)

4. Dynamic Transmission of Traditional Architectural Symbols

Drawing on Hall's encoding and decoding theory, the effective transmission of symbolic meaning relies on the congruence between the designer's encoding strategies and the player's cultural cognitive framework. In online games, the dissemination of traditional architectural elements transcends static symbolic representation, evolving into a dynamic process of meaning circulation and shared interpretation. This transmission cycle initiates with the designer's creative reinterpretation of cultural symbols, unfolds through the player's immersive engagement within game environments, and culminates in collaborative communication and creative regeneration within the player community.

4.1 Symbolic Encoding and Implantation: Communication Starting Point and Cultural Translation

As the first stage of the communication process, designers select, transform, and encode traditional architectural symbols into forms compatible with network game carriers and player cognition. This is not a simple visual replication but involves three primary levels of creative translation work. First, historical documents and architectural relics are consulted to extract core elements with high cultural recognition and collective memory capacity, such as palace roof styles, bracket system construction, lotus columns in stone carvings, and beast-face patterns. These symbols, with their profound historical accumulation and cultural symbolism, more easily transcend temporal and spatial barriers to evoke players' emotional resonance. After selection, key physical characteristics—including component morphology, spatial arrangement, and material texture—are faithfully restored to establish the foundation of cultural authenticity in the communication process. Second, digital technologies such as

3D modeling are employed to reconstruct the spatial principles and aesthetic essence of traditional architecture within virtual scenes. This is not merely a digital replication of appearance but involves activating and reinterpreting the underlying ritual concepts, social structures, and aesthetic philosophies to align with the interactivity and immersion of game carriers. Third, architectural elements are integrated into the game world to construct a complete narrative. The transformed architectural elements are skillfully implanted into the game's worldview, storyline, and gameplay systems, becoming an indispensable part of the game's meaning system and endowing these symbols with new functions and meanings within the game context.

As a high-context culture, Chinese culture often embeds rich connotations within contexts. Thus, during encoding, designers must strive to construct a shared cultural cognitive framework with players. Facing the tension between historical restoration and artistic innovation, designers adopt a layered transformation strategy: preserving the core features of architectural structures (e.g., traditional roof forms and courtyard layouts), extracting cultural symbolic elements in decorative details (e.g., simplifying complex carved patterns), and enhancing atmosphere rendering in scene creation (e.g., highlighting architectural texture through light and shadow changes). This layered approach avoids both aesthetic fatigue from complete replication and cultural misinterpretation from excessive adaptation, ultimately achieving a dynamic balance among cultural fidelity, game artistic expression, technical feasibility, and player experience demands, thereby paving the way for effective symbol transmission.

4.2 Scenario-Based Decoding: Immersive Experience and Meaning Generation

The transmission and comprehension of cultural connotations embedded in carefully encoded architectural symbols hinge on the immersive experiences players acquire within specific game scenarios. In online games, architecture is intricately interwoven with tasks and activities, fostering a transition from passive information reception to active participation. Players naturally attend to the connotations conveyed by architecture while completing tasks. The meaning expression of the meticulously constructed symbolic system is realized through game scenarios, and deep interactions between players and architectural symbols unfold primarily through three modalities.

First, players control virtual characters to engage in diverse interactions around traditional architecture, such as independently exploring temples and markets, participating in traditional festivals, or exchanging game experiences and forming teams to challenge dungeons in proximity to these structures. Such game content, infused with architectural elements, not only enriches the cultural depth of the game but also enhances player engagement.

Second, certain games adopt traditional architecture as core design elements. In interactive game environments, architectural symbols transcend mere static decorations, becoming deeply integrated with player behaviors. Taking simulation-management games as an example, players must complete construction and management tasks while leveraging interactions with architectural elements to drive

narrative progression. Games like *Forbidden City: Pocket Palace Craftsman*, *The Lost Village*, *Jiangmu*, and *Tao Yuan Deep in the Mountains* feature narratives centered on traditional architectural design for material collection and construction, enabling players to uncover the historical and cultural contexts underlying the architecture during the holistic construction process. Such interactions foster intimate connections between players and traditional architecture across various game aspects, thereby strengthening identification with Chinese culture.

Third, players advance the plot through exploring specific architectures. High-end architectural scenes often impose thresholds in terms of strength and level, serving as pivotal vehicles for goal-setting and self-challenge. To unlock more architectural scenes and experience traditional culture, players must continuously improve their abilities. Additionally, some players establish guild or clan bases around palace buildings in-game, employing personalized decorative layouts to express unique styles.

4.3 Communal Diffusion: Interactive Sharing and Meaning Re-production

Cultural components in online games are transmitted to participants through symbols, and their reception and interpretation are influenced by factors such as the decoder's educational background, personal experiences, and environmental context. During gameplay, players share a set of overarching game rules that foster a shared interpretant through interaction. Players can share and exchange their interpretations of traditional architectural symbols. Although individual players decode symbols differently, these differences often spark discussions grounded in the game's overarching rules. Players engage in exchanges on official communities like Baidu Tieba or Douban, negotiating and reconstructing the meanings of traditional architectural symbols by sharing viewpoints, citing historical-cultural materials, and linking in-game clues. They may create game guides, video tutorials, fan fiction, or other content to disseminate their understanding. For instance, official communities of *Genshin Impact* and *Honkai: Star Rail* feature numerous threads discussing Jiangnan and Hui-style architecture, where players enrich interpretations by cross-referencing historical data, deepening collective comprehension. Similar discussions thrive on integrated gaming platforms like TapTap.

Moreover, players on platforms such as Bilibili, TikTok, and Baidu Tieba utilize game screenshots, video edits, or other tools to craft wallpapers, posters, or short videos featuring traditional architecture, sharing these creations across social media. These derivative works not only serve as new carriers for symbol dissemination but also shape other players' interpretations during transmission. Individual experiences within the game scene are not endpoints; through communal re-encoding, symbol meanings propagate across the community in varied forms, forming a dynamic, cyclical communication process. This expands the scope of traditional culture and fosters its inheritance and development. This phenomenon aligns with the semiotic concept of intertextuality, where a symbol's meaning is enriched and expanded through cross-referencing with other texts—here, players' viewpoints and cultural knowledge.

5. Empirical Analysis of Communication Effects: Black Myth: Wukong

To validate the practical efficacy of the aforementioned communication mechanism, the phenomenon-level game *Black Myth: Wukong* was selected as the analytical sample. Through crawling data from Bilibili, Weibo, and other platforms, combined with LDA topic modeling and trend analysis, the dissemination trajectory of traditional architectural symbols in the digital space was systematically observed across three dimensions: communication breadth, depth, and cultural penetration.

5.1 Communication Breadth: Cross-Platform Topic Diffusion

To quantify the communication breadth of traditional architectural symbols in *Black Myth: Wukong*, this study employed the Python Scrapy framework to collect relevant topic information from Bilibili and Weibo. Keyword selection adhered to a tripartite logic: first, using *Black Myth: Wukong* as the core reference, paired with broad conceptual terms like traditional architecture and ancient architecture to capture macro-level discussions linking the game to architecture; second, actively excluding well-known architectural elements while prioritizing culturally significant yet relatively obscure sites (e.g., Qianfo An, Xuankong Temple) and construction symbols (e.g., bracket system, suspended sculptures), thereby emphasizing the game's role in disseminating niche cultural heritage; third, grounded in the semiotic classification of indexicality, iconicity, and symbolism to ensure the keyword system encompassed multi-dimensional dissemination levels of cultural symbols. Consequently, keywords designed via cognitive filtering + symbolic stratification enabled precise acquisition of dissemination metrics (e.g., view counts, shares), facilitating evaluation of traditional cultural symbols' platform performance post-launch and providing a basis for measuring cultural dissemination increments.

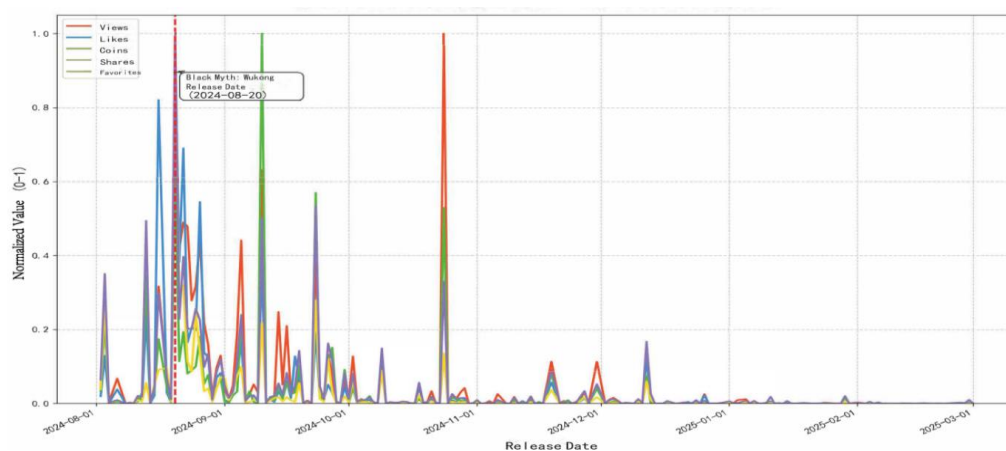


Figure 1. Comparison of Normalized Metrics for Black Myth: Wukong and Traditional Architecture-Related Content on Bilibili

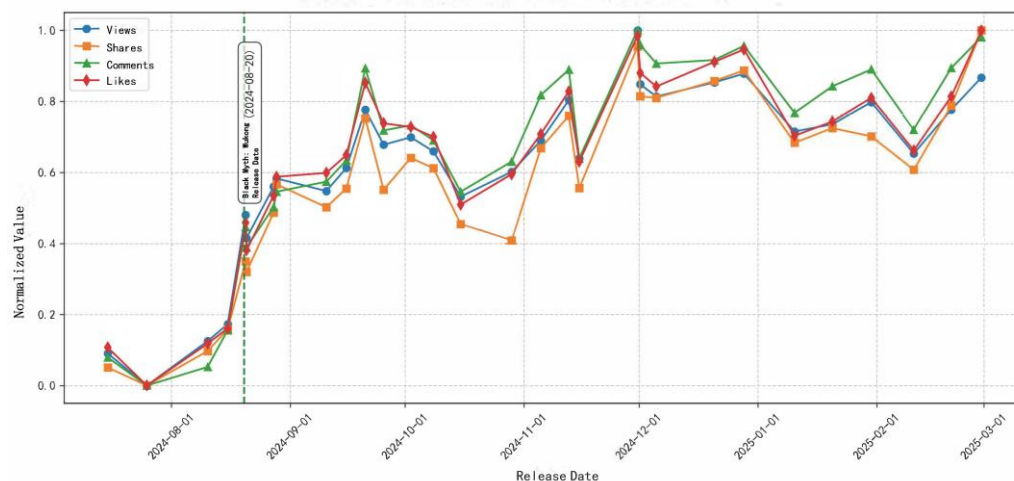


Figure 2. Comparison of Normalized Metrics for Black Myth: Wukong and Traditional Architecture-Related Content on Weibo

Bilibili data reveals that following the game's launch, metrics including views, likes, coins (virtual currency), shares, and favorites exhibited a pattern of fluctuating growth. These metrics peaked around the release date of August 20, 2024, underscoring the game's strong resonance within the Bilibili community. Subsequent months witnessed multiple dissemination peaks, with related videos consistently gaining substantial traffic and interactive engagement. This fluctuating growth trajectory not only reflects the game's sustained user appeal but also highlights the platform's vibrant community dynamics. User-driven interactive behaviors further amplified the game's influence on Bilibili.

Weibo data shows that prior to *Black Myth: Wukong's* launch (July to early August 2024), traditional architecture-related Weibo content had already achieved significant read, repost, comment, and like volumes, indicating heightened player anticipation. On the release date (August 20, 2024), dissemination metrics surged dramatically: two posts garnered 152,756 and 139,876 reads respectively, with reposts and comments increasing markedly. This surge confirmed the release date as a pivotal node for traditional architectural symbol dissemination, sparking widespread user discussions. Over subsequent months, despite fluctuations, dissemination metrics showed an overall upward trend—for instance, on November 30, reads reached 254,296 with 31,430 likes—demonstrating sustained game popularity. The concurrent high read counts, reposts, comments, and likes on game-related architectural topics underscored active user participation in content dissemination and interaction. This synergy not only enhanced topic dissemination efficacy but also fostered a healthy community dissemination ecosystem on Weibo.

Consequently, *Black Myth: Wukong* has maintained consistent high visibility from launch through ongoing operations, establishing a prolonged dissemination cycle. The game's traditional architecture content rapidly disseminated across multiple platforms, forming an efficient transmission system. This

demonstrates its evolution beyond mere entertainment, positioning it as a vital conduit for traditional culture dissemination. Its influence extends beyond gaming: through cultural elements like traditional architecture, it has ignited widespread public interest and in-depth exploration of traditional culture, pushing cultural dissemination beyond conventional boundaries and enabling cross-domain transmission.

5.2 Depth of Communication: Semantic Network Analysis

The hierarchical cognitive features of players regarding traditional architectural symbols are distinctly manifested in LDA topic analysis. Rooted in semiotic theories of meaning transmission, this study integrates the tripartite representation of game architectural symbols—experiential perception, technical translation, and cultural interpretation—with the textual characteristics of Bilibili and NGA platforms to predefine thematic directions. Validation reveals that a five-topic structure exhibits strong semantic cohesion and clear differentiation, precisely corresponding to the cognitive disparities: Bilibili emphasizes sensory experience while NGA prioritizes technical-cultural analysis. This framework also fully encompasses the meaning production cycle from iconic signs to symbolic signs, providing empirical support for the experience-textual analysis-integration decoding model.

To elucidate the divergent cognitive ecologies of Bilibili and NGA, this study first conducts a quantitative comparison of topic distributions (Table 2). Although the heatmaps in Figure 3 and Figure 4 share similar visual formats, this uniformity establishes a standardized observational framework for cross-platform comparison. The core value resides in uncovering the distinct semantic connotations and community-specific cultures embedded in keyword clusters. Table 2 highlights striking proportional differences—for instance, the game experience theme accounts for 45.3% on Bilibili but only 18.3% on NGA—clearly validating this divergence.

Table 2. Comparison Table of Theme Proportions between NGA and Bilibili Platforms

Theme Category	NGA Platform Percentage	Bilibili Platform Percentage
Gaming Experience & Cultural Immersion	45.3%	18.3%
Integration of Traditional Chinese Elements & Modern Gaming	7.1%	19.0%
Technical Realization & Visual Effects	9.8%	20.2%
Buddhist & Taoist Culture & Mythological Elements	10.4%	12.4%
Ancient Architectural Details & Cultural Artifact Restoration	27.4%	30.2%

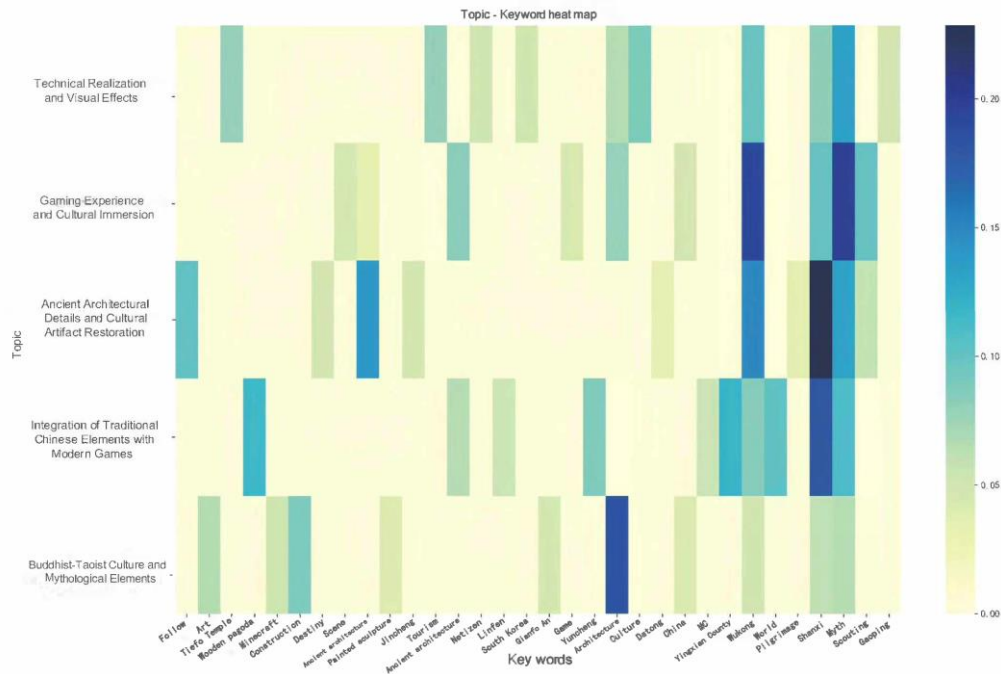


Figure 3. Keyword Heatmap from the Bilibili Platform

On Bilibili, a visually intensive platform, 45.3% of discussions center on game experience and cultural immersion, with keywords such as scene selection, ancient architecture, and Shanxi forming a prominent thematic cluster. This phenomenon validates the direct communicative efficacy of visual symbols—when cultural symbols like the Tang Dynasty bracket system of Foguang Temple and the diagonal bracing structures of Xuankong Temple are translated into interactive virtual scenes, players undergo a meaning-reception process that evolves from visual impact to cultural identity. This transition is facilitated through secondary creations, such as comparative videos contrasting ancient architectural field visits versus game scenes, which complete the semantic journey from sensory awe to cultural recognition. Notably, within the technical implementation and visual effects theme (9.8% prevalence), the high frequency of emotionally charged terms like shocking and architecture reveals the modern transformative capacity of digital media in reinterpreting traditional architectural aesthetics.

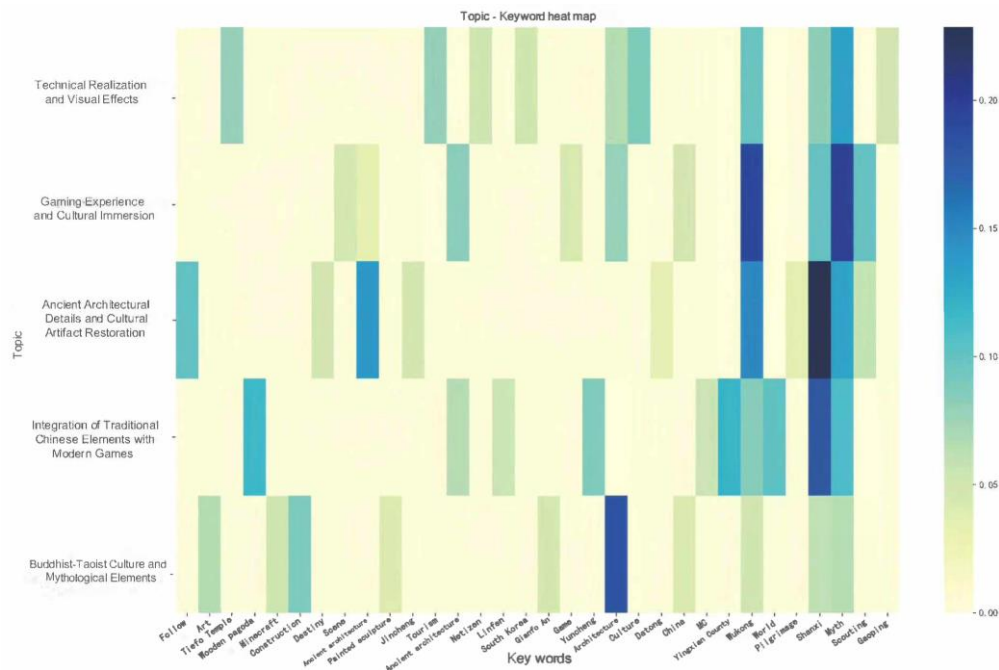


Figure 4. Keyword Heatmap from the NGA Platform

Compared to Bilibili's emphasis on perceptual experience, NGA Forum's in-depth discussions demonstrate a rational, textual-research quality, focusing on verifying the fidelity of architectural details and the logic of cultural element integration. Within the Ancient Architecture Details and Cultural Relic Restoration theme (30.2%), keywords like ancient architecture, restoration and reproduction exhibit prominent thermal values. For instance, users compare the reproduction accuracy of bracket system structures in Yingxian Wooden Pagoda and Qianfo An hanging sculptures in the game, even citing academic architectural sources to validate symbolic representation accuracy—shifting cultural transmission from superficial perception to deep decoding. Meanwhile, under the Integration of Traditional Chinese Elements and Modern Games theme (19.0%), terms such as details, cultural relics, and archaeology show higher thermal values, with players discussing how traditional architectural elements merge with gameplay mechanics and narrative, such as analyzing how Buddhist-Taoist cultural architecture scenes serve story progression, reflecting functional integration of symbols. The Buddhist-Taoist Culture and Mythological Elements theme (12.4%) correlates with words like charitable and pious deeds and Buddhism, indicating players' deep exploration of cultural cores within architectural symbols.

Integrating data from both platforms reveals a multi-layered interpretation model of experience-textual research-integration. Bilibili users prioritize immersive atmospheric perception of architectural symbols through visual experience, while NGA users emphasize textual research of symbolic details and their cultural functions. Heatmaps in Figures 3 and 4 visually concretize this cognitive divergence, profoundly reflecting how platform characteristics shape differentiated symbolic decoding approaches.

As a digital carrier for traditional architecture, games facilitate multi-dimensional symbolic interpretation among players, driving meaning expansion and value enhancement of traditional architectural symbols in dissemination.

5.3 Cultural Infiltration: Trend Correlation Analysis

To evaluate the feedback effect of traditional architectural elements in games on real-world cultural dissemination, search engine trend analysis was conducted using terms such as bracket system, Foguang Temple, Shanxi Tourism, Qianfo An, and Yingxian Wooden Pagoda. The selection of these terms adhered to three systematic criteria: First, to cover diverse symbol categories, including concrete architectural components (e.g., bracket system as an iconic structural element), specific cultural landmarks (e.g., Yingxian Wooden Pagoda), and cultural experience domains (e.g., Shanxi Tourism). Second, to address cognitive hierarchies, constructing a comprehensive cognitive gradient from specialized architectural terminology to popular tourism attractions. Third, to ensure direct and explicit relevance to the game content of *Black Myth: Wukong*, enabling precise tracking of the game's impact on real-world cultural attention following its launch.

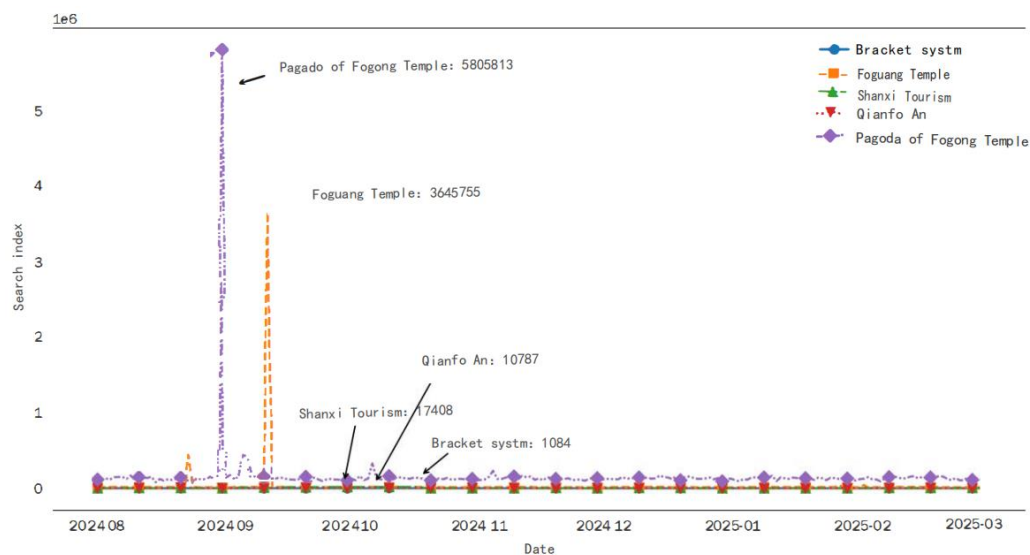


Figure 5. Search Index Trend for Different Keywords

The comprehensive search data reveal distinct phasic variations in keyword searches related to *Black Myth: Wukong* before and after its release. From August 1 to August 20, 2024, search indices remained stable prior to launch, indicating limited user attention to associated traditional cultural symbols. Post-launch (August 20), search indices exhibited significant fluctuations with sustained growth, peaking between September and October. These fluctuations in search volume directly reflect shifts in user attention. For instance, the search volume for Yingxian Wood Pagoda peaked at 5,805,813 on August 31, while Shanxi Tourism reached 17,205 searches on October 16. These peak nodes align with

major game events, player community active periods, and concentrated media coverage, demonstrating that game dissemination combined with external factors effectively enhances the visibility of cultural symbols.

Corroborating data from Tuniu's summer travel reports show that Shanxi as a destination saw a 50%+ surge in travel popularity in August compared to July, with hotel bookings increasing by over 120%. By the end of November 2024, Qianfo An Scenic Area recorded 653,100 visitor arrivals, a 394.09% year-on-year increase, setting a historical high. The upward trajectory in search indices for keywords like Qianfo An and Shanxi Tourism post-launch strongly suggests that the game sparked player interest in Qianfo An, translating into actual tourism behavior and increased visitor numbers.

Analyzing search trend data collectively, *Black Myth: Wukong's* meticulous recreation of ancient Shanxi architecture rapidly amplified real-world attention to associated cultural symbols post-launch. This swiftly ignited user enthusiasm for exploring traditional architectural elements and cultural sites, achieving efficient cultural symbol penetration and showcasing the substantial potential of online games in traditional culture preservation and promotion.

6. The Problems and Innovative Paths of Living Transmission of Traditional Culture

As previously mentioned, online games construct a dynamic cultural diffusion mechanism through symbolic coding, scene interaction, and community communication, thereby opening new avenues for the digital inheritance of traditional architectural culture. However, current dissemination practices commonly encounter practical challenges such as superficial symbolization, static translation, and homogenized perception, which hinder the deep and living inheritance of cultural essence. Without breaking through these bottlenecks, the vitality of traditional architecture in digital space would remain confined to transient visual exuberance. To address this, six practical dimensions can be approached—from foundational rule construction to social ecology extension. Each dimension not only inherits the outcomes of the previous phase but also injects momentum for subsequent development, ultimately building a self-iterative cultural communication ecosystem.

6.1 Fusion Innovation: From Surface Symbols to Deep Mechanisms

Online games frequently demonstrate a tendency to prioritize visual form over cultural essence (form over soul) in representing traditional architecture. Most titles utilize flying eaves, bracket system, and carved doors/windows as mere visual embellishments, limiting player engagement to screenshot-sharing interactions that fail to convey architectural craftsmanship or cultural logic. For instance, in Genshin Impact's Liyue Harbor, Huizhou-style white walls and black tiles are replicated without requiring players to understand the fire-resistant functions of horse-head walls or the ventilation principles of courtyards, reducing cultural symbols to decorative backdrops. The solution necessitates redesigning game logic to transform ancient construction principles into interactive mechanics, establishing culturally informed gameplay. By extracting standardized dimensional systems

and structural codes from classical texts like *Yingzao Fashi*, developers can create a digital library of architectural components. In simulation games, players must assemble components according to traditional regulations—such as column height not exceeding bay width or eave projection ratios—with consequences for non-compliance: insufficient eave length triggers indoor leakage animations and reduces resident satisfaction during rainy seasons, while disproportionate beam-column sizing causes structural tilting and alerts. Strategy games may incorporate feng shui-based evaluation systems; deviations from front hall, rear bedroom layouts reduce NPC work efficiency. This approach transcends passive appreciation-based dissemination, compelling players to actively engage with architectural wisdom. By strongly linking construction rules to cultural logic, traditional architectural knowledge becomes embedded in players' strategic thinking, achieving cultural internalization through educational gameplay.

6.2 Digital Translation of Architectural Wisdom and Ecological Aesthetics

Traditional architecture in games often exists as static models, which neither adapt to dynamic virtual environments nor embody the Site-Specific construction philosophy. This rigid representation weakens the transmission of the Harmony between Heaven and Mankind philosophical concept in traditional architecture. To address this, game platforms can implement environmentally adaptive intelligent building systems, enabling architectural forms to dynamically evolve in response to in-game climate and terrain variations. For example, in northern snowy plains, residential wall thickness and window dimensions automatically adjust to counter virtual cold waves; in Jiangnan water-town maps, continuous rainfall triggers the expansion of courtyard drainage systems. When heavy rainfall causes foundation subsidence, players must employ ancient wooden pile foundation reinforcement techniques by driving piles along riverbanks to stabilize structures. Forcing architectural modifications that ignore environmental conditions—such as using northern flat-roof designs in rainy regions—results in cascading failures like water leakage and structural collapse. Through such interactive experiences, buildings transition from spatial decorations to environmental responders, allowing players to intuitively grasp the value of climate-adaptive design. This effectively conveys the traditional architectural wisdom of site-specific adaptation, aligning with the ecological aesthetics inherent in historical construction practices.

6.3 Immersive Experience Construction across Media

Traditional architectural culture dissemination relies excessively on visual dimensions, failing to convey deep cultural information such as spatial ambiance and material textures. The limitation of single-sensory channels confines players' cultural cognition to superficial levels. Cross-device interactive immersive experience systems significantly enhance player engagement. Game platforms can enable five-sensory architectural exploration through VR/AR technologies, transcending mere visual observation. For instance, wearing haptic gloves to restore wooden structures allows fingertips to perceive the undulating textures of pinewood growth rings; mortise-tenon assembly generates audible

click feedback, with haptic alerts for misalignment. Olfactory modules release scene-specific odor molecules: lotus pond fragrance in gardens, pine resin aroma in temples, and wood-fire smoke in residential kitchens, collectively constructing olfactory memory coordinates. Auditory spatialization techniques precisely reconstruct acoustic phenomena like the Temple of Heaven's echo wall resonance and Hui-style courtyard raindrop sounds. This multi-sensory interactive system transcends screen-based perceptual constraints, establishing neural associations between architecture-sensory-culture in players' cognition. Such embodied cognition significantly improves cultural information retention and fosters muscle-memory-level cultural identification.

6.4 Digital Heritage and Real-World Transmission Synergy Mechanism

The in-game architectural creation and real-world cultural preservation efforts have long existed in a fragmented state, with players' creative contributions failing to translate into tangible cultural value, resulting in a discontinuity in the transmission chain. Gaming platforms can serve as bridges connecting virtual construction to real-world preservation, enabling player-generated designs to directly influence heritage conservation. For instance, the Ancient Architecture Rebirth Plan themed initiative allows players to submit virtual architectural restoration proposals. After expert evaluation, these proposals can be materialized as physical scale models via 3D printing and exhibited at corresponding historical site venues.

A point-redemption system could be implemented: for every 100,000 virtual masonry tasks completed in-game, the developer donates construction materials for real-world restoration, with progress live-streamed to enhance transparency. This approach transforms gaming communities into active agents of cultural preservation, elevating individual creative acts into collective heritage reproduction. The virtual-real synergy mechanism facilitates gamers' transition from mere consumers to digital craftsmen, offering a modern participatory framework for heritage transmission.

More profoundly, digital technology bridges the divide between professional expertise and public engagement in traditional architectural conservation, transforming cultural consumption from an endpoint into a reservoir of preservation energy. Through this dynamic interplay between virtual and real domains, cultural capital undergoes continuous value appreciation.

6.5 Cultural Reproduction Model through Social Collaboration

The digital dissemination of traditional architectural culture has historically relied on unidirectional transmission by developers, resulting in limited interpretive authority and constrained innovation momentum. A collaborative ecosystem integrating expert guidance, mass co-creation, and technical support is essential. At its core, this model dismantles sectoral silos to construct a creative platform involving architectural scholars, intangible cultural heritage inheritors, technical teams, and player communities, enabling a paradigm shift from closed production to open co-creation in cultural exchange.

In practice, a multi-tiered collaborative mechanism can be implemented: architectural scholars conduct textual verification and cultural value interpretation of historical materials to ensure digital fidelity; intangible cultural heritage inheritors employ 3D scanning and other technologies to convert traditional architectural techniques into interactive digital modules; game developers design user-friendly tools for culturally normative secondary creation. Taking the Fujian Tulou Digital Project as an example, craftsmen document traditional rammed-earth construction processes through full-process filming. After expert validation, these are transformed into instructional animations within the game. Players then utilize user-generated content (UGC) tools to modify tulou spatial forms, thereby constructing a digital repository that integrates tradition and modernity.

This mechanism fundamentally stimulates innovation in cultural dissemination. Through multidisciplinary interaction on digital platforms, traditional architectural culture preserves its core genetic stability while generating contextually adapted digital forms. Cyberpunk-style courtyards created by players and Huizhou-style architecture combined with modern materials exemplify adaptive expressions of cultural genes in the digital age. Such dynamics not only enrich communication content but also cultivate cultural steward identities within digital communities, extending traditional knowledge preservation from specialized domains to public participation.

6.6 Dynamic Evolution of Cultural Assessment and Feedback Systems

Current communication models frequently lack effectiveness-tracking mechanisms, hindering the quantification of cultural diffusion extent and cognitive biases, which leaves optimization adjustments without reliable foundations. This systemic challenge results in ineffective transmission of deep-seated cultural values, necessitating systematic solutions.

To ensure sustained optimization of communication effects, a dynamic monitor-analyze-adjust management system must be implemented. First, collect behavioral data—including player interaction frequency with architectural elements and cultural knowledge inquiry volumes—to generate a communication effectiveness heatmap, quantifying the penetration degree and evolutionary trends of cultural symbols. For example, player exploration durations of less than 3 minutes in pavilions indicate insufficient spatial narrative design appeal. Second, deploy AI-driven semantic analysis to monitor players' interpretive tendencies toward traditional symbols, identifying risks of cultural misinterpretation and semantic distortion. Third, adjust game content based on analytical results by designing interactive tasks that guide players to explore relationships between architectural spatial layouts and surrounding environments, visually demonstrating their scientific and cultural significance. This system operates through closed-loop feedback: utilizing dissemination data to refine designs, calibrating content according to cultural trends, and deriving innovation from player behaviors. It dynamically regulates traditional architectural culture, transforming its digital dissemination from a static model into a self-adaptive organic system, thereby maintaining vitality and dissemination precision in the rapidly evolving digital environment.

7. Conclusion

Online games, leveraging high entertainment value and interactivity, attract users across all age groups, significantly expanding the audience reach for cultural dissemination and functioning as a vital platform for showcasing traditional Chinese culture. Traditional architecture, as an integral component of Chinese cultural heritage, constructs aesthetic experiences of traditional architectural forms in virtual spaces, enabling interactive engagement between virtual and real-world environments. In subsequent practice, both online games and traditional architecture should adopt a closed-loop design framework that integrates rule empowerment, environmental adaptation, perceptual reconstruction, virtual-real integration, community co-creation, and dynamic adjustment. This approach breaks through unidirectional dissemination patterns, enhances the dissemination power and cultural impact of traditional Chinese architectural heritage, and facilitates its effective transmission and inheritance among younger generations.

References

- Anonymous. (2018, October 11). When games meet traditional culture. *China Youth Daily*, p. 06.
- Du, H. (2022). A Study on the Communication of Simulation Management Games from the Perspective of Peircean Semiotics: A Case Study of Jiangnan Baijing Tu. *New Media Research*, 8(22), 97-102.
- Du, H. (2022). Research on communication of simulation management games from the perspective of Peircean semiotics: A case study of Canal Towns. *New Media Research*, 8(22), 97-102.
- Du, Y. (2015). The Application of Traditional Chinese Architectural Culture in Game Scenes. *Grand Stage*, (08), 236-237.
- Fan, Z. (2025). The dissemination of Chinese traditional culture in online games: A case study of Honkai: Star Rail. *News Dissemination*, 11(11), 19-22.
- Hu, Y., & Zhu, G. Q. (2022). Online games and the contemporary dissemination of Chinese excellent traditional culture. *Nanjing Social Sciences*, 07(07), 155-162.
- Huang, C. (2020). On the Application of Traditional Chinese Architectural Elements in Game Scene Design. *Today's Mass Media*, 28(07), 126-128.
- Huang, L. (2025, March 23). China Daily looks at Shanxi: Exploring the password of Shanxi's cultural miracles. *China Daily*. Retrieved from <https://sx.chinadaily.com.cn/a/202503/23/WS67dfef3ca310510f19eed3cb.html>
- Jing, X. (2023). Online farmers: Identity construction of player roles in *Tao Yuan Deep in the Mountains* feature narratives. *New Media Research*, 9(21), 52-54, 58.
- Li, J. W., & Xiong, Y. (2024). Symbols, embedding, and going viral: International dissemination of Chinese culture through *Black Myth: Wukong*. *Science and Technology Communication*, 16(24), 171-174.

- Li, J., & Li, Y. (2024). "Wandering the Jianghu": Symbolic Representation and Communication of Chinese Excellent Traditional Culture in Martial Arts Games. *Publishing Research*, (09), 87-94.
- Nie, L., & Qi, D. (2024). Visual presentation: A new path to enhance international publishing communication effectiveness. *Publishing Reference*, 2024(11), 16-19, 28.
- Peirce, C. S. (2014). *On Signs* (Z. Zhao, Trans., pp. 53-55). Chengdu: Sichuan University Press.
- Qi, S. (2018). A Brief Analysis of the Problems in the Dissemination of Traditional Chinese Culture in Online Games. *Southeast Communication*, (08), 41-43.
- Wang, Q. (2022). The Embodiment of Traditional Culture in Online Game Scene Modeling Design. *Culture Industry*, (02), 25-27. <https://doi.org/10.35174/JKCI.2022.09.22.3.25>
- Wang, X. T. (2023). The application of traditional culture in online game design. *Cultural Industry*, 04(04), 37-39.
- Xie, W., & Tang, J. (2024). Signs, re-embedding, and interaction: Intercultural communication of music in the online game Genshin Impact. *Media Forum*, 7(19), 88-90, 110.
- Zhang, A. (2022). Behavioral study of communication and reception subjects based on Hall's encoding and decoding theory. *Journalism Communication*, (19), 36-38.
- Zhang, X., & Nie, Y. (2025). Digital games as a medium: Practical approaches to enhance international communication effectiveness of Chinese excellent traditional culture. *Chinese Editors Journal*, (03), 70-76.
- Zhao, Y. (2011). *Semiotics principles & problems*. Nanjing: Nanjing University Press.
- Zhou, Z. (2003). *Architecture as a medium applying communication theories to architecture design*. Nanjing: Southeast University Press.
- Zhu, M. (2017). Research on the Design of Huizhou Architectural Art in Online Game Scenes. *Art Evaluation*, 17, 180-181.