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Digital Technologies as Cultural Mediators in the Globalization of Chinese Games: A Case Study of *Black Myth: Wukong*

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Abstract: This study examines the role of digital technologies in the globalization of Chinese digital games through a qualitative case study of *Black Myth: Wukong*. It analyzes how real-time rendering, AI-assisted animation, cloud-based distribution, and localization technologies influence global accessibility and intercultural interpretation. The findings indicate that digital technologies act as active cultural mediators rather than neutral tools, shaping how culturally specific narratives are experienced by international players. The study also suggests that such games may support informal cultural learning and digital literacy, although these outcomes depend on player engagement and contextual factors.

Keywords: Digital Technologies; Game Globalization; Cultural Mediation; AI-Assisted Localization; Digital Literacy.

1. Introduction

In recent years, Chinese-developed digital games have achieved significant global visibility. This trend is closely linked to advancements in real-time rendering, AI-assisted visualization, and sophisticated localization practices[4][8]. A key example is *Black Myth: Wukong*, which demonstrates how technical innovation can merge with narratives rooted in Chinese cultural tradition to attract an international audience.

Existing research on the game has explored cultural restoration[3], heritage reinterpretation [2], and international communication strategies. While these studies offer valuable insights into cultural representation, they often implicitly treat digital technologies as supportive tools rather than active forces that shape how global audiences perceive cultural content. An alternative, less common perspective views technologies as active intermediaries that influence cross-cultural interpretation and meaning-making.

Concurrently, research on game-based learning suggests that interactive digital environments can boost user engagement and foster digital literacy[5][6]. However, this literature primarily focuses on educational games designed for instruction. Large-scale commercial titles like *Black Myth: Wukong* remain under-explored in this context. The game's integration of classical Chinese mythology with contemporary digital technology raises important questions: What role do its technological affordances play in shaping global players' appreciation and understanding of unfamiliar cultural narratives[9]? This issue is particularly salient for audiences lacking prior knowledge of the source material.

Within this context, this study adopts *Black Myth: Wukong* as a qualitative case study. It aims to explore how digital technologies contribute to the globalization of Chinese games and influence intercultural perception. Rather than providing an exhaustive account of all factors in game globalization, the analysis focuses on specific technological affordances that most directly affect global accessibility and cultural readability. This focused approach enables an examination of digital technologies as both production means and mediators of intercultural communication. Accordingly, the study addresses three research questions:

(1) In what ways do the digital technologies applied in *Black Myth: Wukong* improve its global accessibility?

(2) What impacts do these technological advances have on the intercultural understanding of culturally specific material?

(3) What educational and digital literacy implications emerge from these technology-mediated cultural experiences?

This paper argues that digital technologies play an active role in the globalization of Chinese digital games, beyond being neutral tools for production or distribution. Technologies related to visual design, narrative presentation, localization, and platform circulation influence how culturally specific content is presented and understood internationally. Using *Black Myth: Wukong* as a case study, this research contends that technological systems are deeply involved in shaping intercultural interpretation and informal learning experiences.

2. Literature Review

2.1. The Use of Digital Technology in Game Development

Recent scholarship increasingly recognizes that digital technology plays a critical role. Beyond influencing production processes, these technologies also shape the visual expressivity of contemporary games. Specialized studies focus on AI-assisted visualization, real-time rendering, and automation of animations, particularly in relation to "real-time rendering, animation automation, and visual fidelity"[8]. This paper focuses on dynamic lighting, high-density geometry and algorithm-supported pipelines. Such technologies have greatly enhanced graphical fidelity. At the same time, those tools boost production workflows[8]. To the *Black Myth: Wukong*, these technologies go beyond aesthetic realism. They allow the visual rearrangement of the mythical objects. Thus, they can change the way culturally-based stories are depicted to the current audience[2][9].

There is developing literature on technical research.

Nonetheless, much of this research continues to focus on performance optimization and visual enhancement. By contrast, cultural implications of these technologies are given fewer considerations. Hu[2] presents a critical viewpoint that claims that digital reconstruction is prone to aestheticize or simplify cultural heritage. Likewise, Lu and Miao[3] notice that multimodal digital narratives tend to emphasize only some sides of traditional literature. All these studies indicate that technological systems are not impartial. They play an active role in the formation of the narrative emphasis, cultural framing, and player interpretative engagement.

This highlights an interpretive gap in existing technical research. However, another central question has been left underexplored. In what ways can particular technological facilities alter culturally unique materials? To put it more accurately, how do these facilities make such content understandable and comprehensible to all the people of the world? This unaddressed problem highlights a needed transformation. Digital technologies have to be viewed as not just the means of representation. They need to be perceived as intermediaries in intercultural interaction.

2.2. Globalization in the Game Industry

Research on the overseas expansion of Chinese digital games highlights two closely related factors. Scholars generally focus on technological conditions and communication strategies. At the same time, studies provide concrete examples. They show how *Black Myth: Wukong* increases its global reach through platform ecosystems, social media circulation, and transnational fan communities. Taken together, this literature suggests that game globalization cannot be explained by a single factor. Instead, it results from the ongoing interaction between technological capabilities and communication practices.

This system makes localization technologies especially prominent. These are the primary tools of ensuring intercultural accessibility. The localization of the present day does not only mean literal translation. As Pirrone and D'Ulizia [4] emphasize, localization involves "making software and games linguistically and culturally appropriate for the target market." Modern methods comprise semantic adaptation, machine translation generation, and culturally appropriate interface development. Nevertheless, current studies still indicate long-standing weaknesses. Wang and Wang[7] report one weakness; the automatic localization may cover over more delicate cultural subtleties. Moreover, the fast globalization may result in incomplete or superficial interpretations of culture-based signs.

Two foundations make possible the globalization of Chinese games: technology-enabled distribution channels and culturally sensitive interaction styles. There is however a general trend in such researches. Digital technologies are usually looked at background infrastructures. They are rarely viewed as active powers which directly affect interpretation. As a result, an important debate is constrained. In what way do particular technological structures (like localization devices, platform algorithms or distribution systems) actively contribute to how Chinese stories are interpreted in different cultural settings? Such a discrepancy indicates a well-defined requirement. The technology should not only be seen as a means of achieving global access but must be regarded as one of the main mediators in the intercultural construction of meaning.

2.3. Games in Digital Education

Digital games are widely recognized for their educational potential, particularly in enhancing student engagement, stimulating cognitive interest, and developing digital literacy skills[5][6].Furthermore, Alaa[1] suggest that games rich in cultural content can promote intercultural awareness and facilitate meaningful cultural exchange, noting that "incorporating a learner's cultural background into educational game design can positively influence engagement and learning outcomes."

Despite these acknowledged benefits, contemporary research remains predominantly focused on games explicitly designed for educational purposes, while major commercial titles receive considerably less scholarly attention.

In the case of *Black Myth: Wukong*, emerging studies have started to examine aspects such as its mythological symbolism, multimodal storytelling, and interactive reconstruction of classical literature, exploring how these elements can foster informal cultural learning[2][3]. Similarly, Wang and Wang[7] argue that game-based reinterpretations of traditional narratives can serve as powerful channels for the international transfer of culture. This growing body of analysis indicates that games may offer learning experiences that extend beyond mere entertainment—especially in the realms of cultural exposure and narrative engagement.

Although educational frameworks help explain learning processes in digital games, existing research has paid limited attention to a crucial question: the role of digital technologies themselves in shaping learning outcomes within commercial gaming environments. It remains unclear how technology-mediated cultural representations influence outcomes such as digital literacy, narrative comprehension, and intercultural awareness. This gap highlights the need for a shift in scholarly focus. Future studies should look beyond cultural content alone and investigate how the underlying technological infrastructures of commercial games shape players' interpretive and educational experiences.

3. Methodology

This study adopts a qualitative case study design. The main objective is exploring how the process of digital technologies can influence two critical aspects, including global spread of *Black Myth: Wukong* and intercultural reading of it. There is a particular reason behind such a methodological choice. It does not aim at obtaining statistical representativity in the whole game industry. It aims to allow studying one information rich case in depth. *Black Myth: Wukong* is one of those cases, in which high-end technical infrastructures and culturally specific narrative content are closely connected. Therefore, the game offers a concentrated and relevant environment. It makes it possible to closely examine the interconnection between technological systems and cultural representation, as well as their perception around the world.

Information on which the analysis is based can be found in three main sources. To start with, there was the gathering of publicly accessible resources. They consisted of developer interviews, technical presentations, and official production reports. Such a list of materials facilitated the determination of particular game engines, AI visualization methods, localization programs, and distribution plans that are applied in the course of development and release. Secondly, the pertinent academic literature was read. It consisted of scholarly articles discussing such topics as cultural

regeneration, reconstruction of digital heritage, and international communication in connection with *Black Myth: Wukong*. The purpose of the review was to place the present analysis into the context of the current academic discourse. Finally, the research entailed a direct observation of the game itself. This meant that it considered the classic mythological adaptation, the multimodal storytelling techniques, and the methods of character and world-building design.

The analysis was conducted in two main steps. The first step focused on technical sources and aimed to identify the key digital technologies involved in the game's development and its global distribution. The second step examined cultural and educational aspects of the game. This stage involved an interpretive analysis of mythological elements, narrative structures, and multimodal forms of representation. Particular attention was given to how these elements were supported, constrained, or reshaped by the technological features identified in the first step.

This two-stage design allowed the study to connect technological functions with cultural meanings. Instead of treating technology and culture as separate dimensions, the analysis considered them together within a single analytical framework.

The analysis broadened the scope of the work to consider intercultural relevance. It was explored whether particular practices, like localization, narrative framing, and visual recreation, could affect international audiences comprehension of culture-specific symbols. This methodology will not directly gauge audience reaction. Its interpretative emphasis will be on presenting the possible conditions. The purpose is to shed light on what informal cultural learning and digital literacy development could have resulted out of exposure to one of the main commercial games such as the present one.

The limitations of this methodological choice should be considered as well. There are no player interviews, surveys and other forms of empirical reception information incorporated in the study. Such an omission limits the opportunity of extrapolating the results regarding the real interpretation of players. The analysis is deliberately focused on the representational and technological features. It also indicates one of the promising areas of the further research which may use empirical tools to develop the presented results.

4. Digital Technologies in *Black Myth: Wukong*

4.1. Unreal Engine 5: Nanite et Lumen

Black Myth: Wukong extensively utilizes Unreal Engine 5 (UE5), relying primarily on two core systems: the Nanite virtualized geometry system and the Lumen global illumination pipeline. The choice of UE5 is significant, as its technical capabilities are closely associated with high-end, AAA-level game production in China. In academic terms, systems like Nanite and Lumen are understood as technical affordances that extend beyond visual fidelity to shape the cultural intelligibility of the digital worlds they help create.

The Nanite system enables the integration of extremely high-density models into a seamless 3D environment, achieving this without relying on traditional Level of Detail (LOD) systems that typically reduce detail over distance. This capability is particularly important for rendering mythologically inspired landscapes, such as the rocky terrain of *Black Wind Mountain* or the lush vegetation of *Peach Garden*, with consistently fine-grained detail regardless of player movement. This sustained visual coherence does more than demonstrate technical prowess—it actively supports immersion by minimizing visual discontinuities (e.g., pop-in), thereby reducing distractions and stabilizing culturally symbolic spaces within a dynamic interactive world.

Similarly, the Lumen system enhances player experience through real-time global illumination that responds to environmental changes and player actions. For instance, in the *Yellow Wind Ridge* cave scene, light from the player's torch dynamically alters shadows and reflections as they proceed, creating lighting conditions that reinforce the game's mythological tone and atmosphere. These dynamic effects serve not only an aesthetic function but also influence spatial perception, navigation, and narrative engagement.

Unlike pre-rendered or static lighting, Lumen offers heightened environmental responsiveness, helping to convey culturally grounded atmospheres while remaining visually legible to players from diverse backgrounds. Because light and shadow function as universal visual cues, the system enables players to comprehend and interact with the environment even without prior cultural knowledge.

Together, Nanite and Lumen represent more than a technical upgrade. These UE5 technologies actively shape the game's visual style and coherence, defining how culturally specific digital environments are both seen and experienced by a global audience. Rather than serving as neutral enhancements, they function as active mediators in the visual and narrative presentation of cultural content.

4.2. Motion Capture and AI Animation

In *Black Myth: Wukong*, character performance is realized through a hybrid pipeline integrating full-body motion capture, facial capture, and AI-assisted animation. Although not unique to this title, these technologies are particularly vital for translating culturally specific movements—rooted in Chinese martial arts and mythological archetypes—into convincing digital performances.

Motion capture lays the physical foundation for character animation. Professional performers execute combat motions drawn from traditional martial arts, including staff techniques, evasive maneuvers, and acrobatic actions associated with the *Wukong* archetype. These recordings establish a reference for biomechanical accuracy and physical credibility, thereby reflecting conventions embedded in Chinese martial culture.

The captured data are subsequently processed and refined by AI-assisted animation systems. This stage involves adjusting limb trajectories, smoothing transitions between key poses, and maintaining movement coherence during fast-paced combat sequences. Importantly, these systems do not replace human performance; rather, they stabilize and extend it, preserving expressive intent within the constraints of real-time interactive gameplay. AI interpolation thus acts as a mediating layer between embodied performance and its real-time digital execution.

Beyond the protagonist, AI-driven animation also generates complex movement patterns for non-human characters. Creatures such as the *Yellow Wind Monster* and the *Nine-Tailed Fox* exhibit motions that exceed the limits of conventional motion capture—including large-scale weight shifts, inertia-driven movement, and quadrupedal or hybrid locomotion. AI systems enable these characters to move in ways that remain physically plausible while consistent with

their mythological identities. Additionally, AI-based facial animation captures subtle micro-expressions, deepening character portrayal and enhancing narrative engagement during pivotal story moments.

Overall, motion capture and AI-assisted animation in *Black Myth: Wukong* transcend mere technical production. They function as active intermediaries between mythological representation and digital embodiment. While grounding character movement in culturally specific martial practices, these systems simultaneously adapt performances to transnational expectations shaped by contemporary AAA aesthetics. This balance underscores that animation technologies are not neutral tools, but active agents in negotiating between local cultural specificity and global legibility.

4.3. Cloud Rendering and Distribution

The development team used cloud-based GPUs when developing *Black Myth: Wukong*. The infrastructure became highly instrumental in the rendering of massive scenes. It was especially essential in the scenes requiring heavy visual effects including complicated particle systems or wide environmental damage. A classic case that can be mentioned is the movie scene the *Battle of Heaven Palace*. The use of cloud rendering had numerous practical benefits. The team did not have to depend on finite local hardware assets. It also cut down the time needed to complete the iterations. All these were useful towards helping developers achieve a meaningful creative objective. The developers now experimented with additional visual sophistication and maintained uniformity between the game worlds that are enormous. Hence, cloud rendering performed two functions. One was an optimization solution in technology. At its core however, it was one of the main enabling factors making extended massive world-building technologically achievable.

The world wide distribution of *Black Myth: Wukong* relies on large digital storefronts. It includes stores such as Steam, the Epic Games Store etc. The platforms are hosted by large cloud delivery networks. They enable some vital backend processes, such as efficient patching, sound version control, as well as dependable access to regions around the world by players. Cloud player-facing characteristics are also utilized. There is no better use of cloud than the cloud-based save synchronization feature. With this functionality, a user can continue playing his game on other devices regardless of the platform they are using. This ability reduces technical constraints on a variety of users who belong to a different part of the globe. Gamers running on non-standard hardware configurations and distributed throughout the globe can all enjoy it. These infrastructural elements lead to a more consistent core gameplay experience. This standardization is particularly relevant to international players with access conditions that can differ greatly depending on the location.

Viewed from a globalization perspective, this analysis points to broader implications. Cloud rendering and distribution infrastructures do more than simplify logistics. They form part of a wider technological ecosystem that enables two key commercial outcomes: near-simultaneous global release and continued post-launch support. These systems reduce dependence on traditional, region-specific physical distribution networks and help maintain relatively consistent performance across platforms such as PC, PlayStation 5, and Xbox.

Through these functions, cloud-based infrastructures shape how the game enters the global digital market. Their influence therefore extends beyond basic accessibility or convenience. They affect how global audiences first encounter the game and how it is initially evaluated and judged.

4.4. Localization tools Based on AI

Black Myth: Wukong uses AI-assisted localization technologies to target international players. These technologies are developed to facilitate both multilingual access as well as more substantial cultural adjustment. Their role is to create preliminary translations, artificial voice lines and localized terminology. In order to achieve this, they use Natural Language Processing (NLP) models. These models are especially helpful in working with vocabulary that has a mythological or classical connotation. Example terms include Wind-Calming Pellet or Cosmic Ribbon. The AI may suggest several alternatives to the translation of such culturally specialized words. It should be noted that these systems do not work as pure automated services. The first outputs are always reviewed and revised after their completion. It is done by human editors. They make adjustments in content to be culturally accurate, properly narrating tone and contextually sound.

The localization of the game goes beyond the conventional text translation. It will also use a real-time subtitle creation device. The feature is powered by voice recognition technology. It offers multilingual access in both narrative cutscenes and during active combat. Further, the interpretation of non-verbal audio elements is also performed by the algorithm. It can be, among other things, an animalistic sound (the specific growls or roars of certain boss characters). The sounds are transformed into textual cues to the player by the system. All these combined features can have only one goal. They enhance understanding of the players who have no clue about the cultural allusions that underlie the audio design of the game. Such support is particularly essential when there is a hectic pace in the scene or the scene has a lot of visual elements, and audio cues become paramount.

AI-assisted localization has a more significant purpose than enhancing the workflow efficiency only. It is a significant component of making essential ideas of the mythology understandable to people of the world. This is the time when the key decisions are made. The ultimate choice of terminology, the style of subtitles, and the method of the voices all do matter. They have a direct effect on the way cultural aspects are perceived within various linguistic borders. *Black Myth: Wukong* uses such a combination approach to handle all those choices. It incorporates the pace with the subtle decision-making of the human supervision. Using this strategy, the project can reach the state of steady compromise. It does aim at finding the middle-ground between the efficiency in operation, linguistic exactness, and cultural accuracy. This hybrid approach to localization is also not a new phenomenon. It is part of a larger tendency in cross-border game distribution. It should be noted that according to Pirrone and D'Uliza (2024) AI-assisted technologies are starting to shape the essential environment conditions in which culturally distinctive stories spread around the globe.

5. Technological Contributions to Game Globalization

5.1. Improving Graphics into International Markets

The global appeal of *Black Myth: Wukong* stems partly from its use of high-fidelity rendering technologies, which help lower experiential barriers for international players who may lack familiarity with Chinese cultural material. For instance, Unreal Engine 5's Nanite system enables micro-level detail in environments such as *Yellow Wind Ridge*, where every rock, foliage cluster, and atmospheric particle remains visually coherent—even during high-speed battle sequences. Simultaneously, the Lumen global illumination system produces gradual lighting shifts, exemplified when players transition from a brightly lit exterior into the dark interior of the *Yellow Wind Monster*'s cave. This dynamic lighting reinforces spatial coherence and enhances overall visual clarity.

From a globalization perspective, these visual affordances function not merely as aesthetic enhancements but as mediating elements. The game's high production values establish a visual quality on par with internationally recognized AAA titles. This technical parity is crucial, as it encourages global players to engage with culturally specific narratives without first questioning the game's technical competence. Thus, visual fidelity serves as an entry point, enabling players to encounter unfamiliar mythological content through clear, readable visual cues rather than relying on prior cultural knowledge. In this way, visual design supports initial engagement with culturally distinctive material while reducing barriers to cross-cultural access.

An important caveat, however, must be noted: graphical sophistication does not inherently convey deeper cultural understanding. While advanced rendering engines promote immersion and accessibility, their primary role is to establish the initial conditions under which culturally specific storyworlds become legible and inviting to global audiences. Graphic technologies thus participate in a broader process—the translatability of mythological worlds into a global digital medium. They make an indirect yet significant contribution by facilitating the critical first step of engagement. Yet on their own, they cannot directly transmit the nuanced cultural meanings embedded within those spaces.

5.2. Effective Global Delivery

Contemporary digital distribution infrastructures have fundamentally transformed how Chinese digital games reach international markets. A clear example is *Black Myth: Wukong*'s release strategy, which involved simultaneous launches on multiple platforms—including Steam, the Epic Games Store, and the PlayStation Network. This approach demonstrates how modern cloud-based delivery enables direct global access, eliminating the traditional reliance on region-specific physical publishers or distributors.

This system is supported by several technical mechanisms, such as automatic patch updates, regular content delivery, and globally distributed content delivery networks (CDNs). Together, these features help ensure that players in different regions experience largely consistent gameplay, mitigating challenges related to update latency and technical fragmentation across territories.

Another key element is multi-platform optimization. The game is finely tuned for PC, PlayStation 5, and Xbox, achieving a high degree of technical uniformity across competing hardware platforms. This consistency reduces the risk of regional disparities in performance or quality, which could otherwise negatively impact cross-border reception and long-term player engagement. Consequently, these cross-platform infrastructures are not merely logistical enablers; they constitute the operational mechanisms through which the game becomes accessible, evaluable, and sustainable for a worldwide audience.

The integration of these distribution systems creates a new environment in which cultural content circulates through interconnected digital ecosystems. This represents a shift away from earlier frameworks that depended on traditional gatekeeping intermediaries such as regional distributors or retail chains. In this modern context, technical logistics cannot be separated from the process of cultural diffusion. It is important to emphasize that while a frictionless, efficient distribution network does not dictate how end-users interpret cultural narratives, it fundamentally shapes the initial conditions under which Chinese digital games enter global markets. By ensuring broad and equitable access, it sets the stage for meaningful intercultural encounters to take place.

5.3. Algorithmic Promotion

The present-day game industry is now being driven more by algorithmic recommendation systems than it ever has before. They are platforms such as YouTube, TikTok & Bilibili that are taking center stage. The algorithms of these platforms will automatically find and rank videos featuring *Black Myth: Wukong* gameplay footage. Such material tends to be classified as the highly engaging type of content. The given category is mostly explained by certain game mechanics such as dynamic fighting scenes, cinematography camera movements, and visually spectacular boss fights. It is therefore directly caused by this fact that small video clips enjoy a very high circulation rate. The battle with the *Yellow Wind Monster* or *Giant White Ape*, for instance, becomes widely popular. It reaches the feeds of users who might be unaware of Chinese mythology prior to watching such footage or perhaps not have any history of playing digital games.

These algorithmically-based distributions have a number of interconnected and important functions. Firstly, they help establish what can be referred as emergent global publics. These online aggregations involve players with very dissimilar cultural backgrounds experiencing the same game at the same time. This concurrent exposure takes many forms, such as reaction videos, commentary videos, and other derivative creative works, including fan art. Secondly, the amplification effect of algorithms is to accomplish a particular change. This change turns raw technical spectacle into a culture-accessible entry point. This step enables interesting visual materials to grab attention first. Audiences that have never heard of the original work, *Journey to the West*, may also be drawn. In such a manner, the visual intensity and gameplay rhythm become the original points of engagement. Then follows the actual narrative or cultural background investigations.

Meanwhile, this algorithmic-enabled flow quickens one more process in production cultural meanings. It positively promotes the generation of user-derived readings, memes and stories rewrites. Those community-based creations can be very different than the original intentions of the creators in

terms of story-line. It is important to understand that recommendation algorithms are not impartial conduits. They also contribute to creating two very essential results: what elements of the game acquire the greatest exposure, and how they should be put into the context of the total picture of the world of digital culture. Hence, the communication ecosystem, which exists around *Black Myth: Wukong*, is organized into two forces. They are not only influenced by official marketing strategies of the studio but also by the strong socio-technical processes of the auto-promotion of the content.

5.4. Intercultural Participation in Digital Spaces

Digital technologies further mediate intercultural interaction by enabling multilingual access and enhancing narrative clarity. Central to this process are AI-assisted localization tools, which generate preliminary translations of culturally sensitive terms. These outputs are subsequently reviewed and refined by human editors to ensure narrative consistency and cultural accuracy. In-game features—such as subtitles, voice acting, and contextual tooltips—also aid comprehension by explaining unfamiliar mythological references, including figures like the *Yellow Brows King* and the *Nine-Tailed Fox*. Such support is particularly valuable for players with limited prior exposure to Chinese cultural traditions.

Intercultural engagement, however, extends beyond the game itself. Player communities actively contribute through platforms like Reddit and Steam Community forums, where built-in translation tools facilitate multilingual discussions. In these spaces, players collectively interpret mythological elements, exchange cultural explanations, and negotiate narrative meanings. This collaborative dynamic suggests that deeper cultural understanding often arises from shared dialogue rather than from isolated gameplay.

Thus, intercultural participation should not be seen as a direct outcome of narrative exposure alone. It emerges through a layered technological process that integrates in-game AI localization, platform-level translation tools, and global distribution infrastructures. Together, these systems do more than enable access—they actively structure the conditions under which players from diverse cultural backgrounds encounter, interpret, and sustain discourse around *Black Myth: Wukong*. This perspective underscores the need to view digital technologies not as passive supports, but as active frameworks that shape the very possibilities of intercultural participation.

6. Educational and Cultural Implications

6.1. Game-Based Learning of Culture

Black Myth: Wukong employs high-fidelity digital reconstruction to revive the fictional heroes, landscapes, and symbolic imagery of the classic novel *Journey to the West*. This interactive format allows participants worldwide to encounter tangible manifestations of Chinese culture and heritage. In-game locations serve not merely as scenery but as active carriers of cultural symbolism, animated through narrative exposition, deliberate environmental design, and character interactions. Together, these spatial elements create conditions conducive to informal cultural learning. As Hu[2] suggests, digital heritage presentations enable a new form of interaction—players engage with cultural content actively rather than passively observing it, producing a kind of experiential knowledge distinct from conventional text-based learning.

The game adopts a multimodal narrative approach, integrating visual cues, environmental storytelling, professional voice acting, and action-oriented sequences. These elements collectively transform classical literary and mythological symbols into forms more accessible to international players with limited cultural background. This aligns with Alaa[1], who observe that culturally rich games can foster intercultural sensitivity and encourage deeper interpretive engagement.

Simultaneously, the digital portrayal of mythological characters—such as the *Yellow Wind Monster* and the *Nine-Tailed Fox*—shapes how players encounter unfamiliar archetypes and worldviews. Through repeated gameplay and sustained narrative cues, players may gradually form intuitive connections with elements of Chinese cosmology, recurring moral themes, and common narrative conventions. Such intuitive learning can occur even without formal cultural instruction.

It is important to note, however, that commercially successful games like *Black Myth: Wukong* are not designed as explicit educational tools. Nevertheless, they possess considerable pedagogical power, transforming abstract cultural icons into embodied, emotionally evocative, and visually rich digital experiences. In doing so, they establish a set of enabling conditions under which informal cultural learning may naturally arise. A crucial caveat remains: there is no guarantee that such learning will be deep or sustained over time. Its depth and durability depend on variable factors, including the player's degree of involvement, the interpretive environment provided by the game and its community, and the player's access to supplementary cultural materials beyond the game itself.

6.2. Digital Literacy Improvement

In addition to its cultural educational value, *Black Myth: Wukong* might add another contribution to the world. Technologically sophisticated setting of the environment can promote the cultivation of digital literacy in unobtrusive and impactful fashion. The players that dive into the depths of the gameplay system are confronted by advanced visuals, complicated levels and realistic fighting animations. Such involvement allows them access more technical ideas behind the scenes. Among the concepts are real-time rendering, procedural animation, motion capture, and AI-assisted systems. They are current issues in the literature on visualization and game technology[8]. Such advanced systems may be used as a trigger. It might provoke interest in the player to learn what the main principles of technical knowledge are. This will subsequently result in an elementary but functional understanding of the principles of operation of modern digital media technologies.

Moreover, the narrative architecture of the game fosters a certain model of intellectual involvement. The players are encouraged to engage in interpretative activities. These include the study of the inner workings of the story, the perception of repeating symbolic patterns, and the analysis of the purposeful interaction between graphic and narrative design. This dynamic mode of engagement can be likened to views on multiliteracy. There is a need to teach players how to browse through and compile various forms of information

concurrently; symbolic, visual, spatial and textual. As an instance, identification of the cultural importance *Peach Garden* cannot be done through a shallow level of observation. In the same line, making sense of the allegorical role of a Boss such as the *Yellow Brows King* means that players require not only understanding of what happens in a story but also a deeper understanding of the overall context within which they find themselves.

The growth in digital literacy is not limited to game code. It may be manifested by taking part in the online surrounding digital ecosystem actively. Joining the intercultural discussion forums, following official developer diaries, or creating their derivative content are some examples of players practicing important skills. The act of creating fan art, writing game play analyses, or describing lore all involve high levels of information processing, critical media interpretation and effective digital communication. The mentioned participatory actions, according to Videnovik[6], represent metacognitive aspects in game-based learning. In such settings, learning has meaning when it occurs through social reflection, peer talk, and creative creation rather than when it takes place because of a formal or didactic teaching style.

This integrated viewpoint allows us to see how *Black Myth: Wukong* is establishing an opportunity-rich environment. These opportunities facilitate the development of a composite form of digital literacy. The literacy is the combination of three components: emerging technological consciousness, interactive interpretative involvement in multimodal texts, and involvement in participatory digital activities. Nevertheless, there are some points that should be emphasized. The fact is that the level of development of these literacies in any particular player cannot be predetermined. It depends largely upon a number of aspects. They include the inner drive of the player, his/her availability to outer contextual materials, and the total level of his/her immersion into the game and the general online community.

6.3. Implications of Game-Based Learning

The technological and narrative approaches shown in *Black Myth: Wukong* are important in academia discussions. They are a useful point of departure to engage in discussions and explore game-based learning, particularly in higher education. The same can be said of the specializations that concentrate on the development of games, digital media, teaching resources, and cultural research. Starting with the technology standpoint, the game is one of the modern case studies. It gives the vivid examples of the functioning of advanced professional systems. Among them are virtualized geometry (Nanite) implemented in Unreal Engine 5, AI-driven animation pipelines, and cloud-based rendering infrastructures. Such an insight into the intricate technical systems corresponds to the learning objectives present in some STEM-focused game-based learning structures. As has been observed by Sun[5] and Videnovik[6], the didactic value of such exposure is considerable but usually indirect, not didactic.

If we shift to an educational technology viewpoint, there are certain insights about the game design. The integration of interactive storytelling with multimodal representation contributes to a larger body of the learning resource design domain. The game shows how culturally-based digital resources are to be developed. It is instructional in its re-creation of mythological worlds. For example, the atmospheric painting of the *Yellow Wind Ridge* or the symbolic representation of the *Black Wind Mountain* is one of the principles. Narrative world-building with these kinds of detail could be extremely effective in promoting learner engagement and enhancing the contextual information gained by the learner. This method is in agreement with the scholarly insight. Previous research suggests that culturally situated digital narratives have strong potential to promote intercultural awareness[7]. It may promote increased awareness of cultural differences around the globe and assist in communicating between cultures. There is a particularly strong potential when it goes hand-in-hand with a certain type of guided interpretation or background context.

These observations are relevant to curriculum design across disciplines and have practical implications for teaching. University courses in fields such as information technology, digital humanities, and education can use *Black Myth: Wukong* as a reference case. Through this example, students can examine how traditional cultural myths are transformed into digital forms and how specific technical affordances directly influence storytelling practices. They may also consider how interactive media shape interpretation through user engagement.

At the same time, the role of the game in academic settings should be clearly defined. It is not intended to function as an instructional model but rather as a concrete case for analysis. By studying this example, students can engage with the interrelated processes of technological innovation, narrative design, and cultural representation in a focused and critical manner.

7. Conclusion

This study examines the role of digital technologies in the globalization of Chinese digital games through a qualitative case study of *Black Myth: Wukong*. It argues that treating digital technologies merely as neutral tools for production or distribution is insufficient for understanding how culturally specific content becomes accessible and interpretable in global contexts. Instead, the findings demonstrate that digital technologies actively participate in the mediation of cultural meaning and play a formative role in shaping intercultural perception.

The analysis shows that a range of technological systems—including high-fidelity real-time rendering enabled by Unreal Engine 5, motion capture and AI-assisted animation pipelines, cloud-based rendering and global distribution infrastructures, and AI-supported localization tools—collectively contribute to the game's global accessibility and narrative legibility. By enhancing visual coherence, stabilizing narrative presentation, and lowering linguistic and platform barriers, these technologies create the conditions under which international players can engage with a mythologically dense and culturally specific game world. In this process, technology functions not as a passive carrier of cultural content but as an active mediator that influences how cultural narratives are framed, encountered, and interpreted.

From a cultural and educational perspective, the study further suggests that commercially successful digital games, while not designed as instructional tools, may offer meaningful opportunities for informal cultural learning and the development of digital literacy. Through multimodal storytelling, immersive world-building, and participation in transnational digital communities, *Black Myth: Wukong* enables players to encounter Chinese mythological symbols, narrative structures, and cultural values in experiential ways.

However, such learning outcomes should be understood as contingent rather than guaranteed. Their depth and durability depend on factors such as player motivation, community interaction, and engagement with contextual resources beyond the game itself.

Methodologically, this research adopts an interpretive case study approach that focuses on the relationship between technological affordances and cultural representation, rather than on empirical measurement of player reception. While this approach allows for a detailed examination of how technologies shape the conditions of intercultural understanding, it also limits claims about actual learning outcomes or audience interpretation. Future research could address these limitations by incorporating player interviews, surveys, or comparative cross-cultural studies to further investigate how technology-mediated cultural experiences are received in practice.

Overall, by foregrounding digital technologies as cultural mediators, this study contributes to game globalization research by clarifying the active role of technological systems in shaping intercultural meaning-making. It also offers a theoretical perspective relevant to studies of digital culture, game studies, and informal learning, suggesting that the global impact of Chinese digital games is shaped not only by cultural content but also by the technological frameworks through which that content is produced, circulated, and experienced.

References

[1] Alaa M, Hammouda N, Abdennadher S. The effect of culture in educational games for school students [C]//Proceedings of the 20th International Conference on Culture and Computer Science: Code and Materiality (KUI'23). New York: ACM, 2023: 1-10.

[2] Hu X. Video games and heritage intersect: An investigation of Black Myth: Wukong from antiquarian to critical perspectives [J]. Rethinking History, 2025: 1-43.

[3] Lu Y, Miao H. The regeneration of Chinese classical literature in video games: A multimodal digital narrative discourse analysis of Black Myth: Wukong [J]. Lex Localis – Journal of Local Self-Government, 2025, 23(7).

[4] Pirrone M, D'Ulizia A. The localization of software and video games: Current state and future perspectives [J]. Information, 2024, 15(10): 648.

[5] Sun L, Kangas M, Ruokamo H. Game-based features in intelligent game-based learning environments: A systematic literature review [J]. Interactive Learning Environments, 2023, 32(7): 3431-3447.

[6] Videnovik M, Vold T, Kiønig L, et al. Game-based learning in computer science education: A scoping literature review [J]. International Journal of STEM Education, 2023, 10: 54.

[7] Wang Y, Wang X. The global dissemination of Chinese culture through Black Myth: Wukong: A systematic literature review [J]. Review of Communication Research, 2025, 13: 83-96.

[8] Wu Y, Yi A, Ma C, et al. Artificial intelligence for video game visualization: Advancements, benefits, and challenges [J]. Mathematical Biosciences and Engineering, 2023, 20(8): 15345-15373.

[9] Zhang Q, Zeng H. Postmodern mythmaking in the digital age: Black Myth: Wukong and the reconfiguration of Journey to the West [J]. Adaptation, 2025, 18(3).