



# Ceramic Arts in Modern Zhongdukou of Jingdezhen: Ecological Communication and Educational Literacy

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ARTICLE INFO	ABSTRACT
Article history Received: January 12, 2024 Accepted: December 09, 2024 Published: March 31, 2025 Volume: 13 Issue: 2	This study examines the ceramic arts of Jingdezhen's Zhongdukou, focusing on the interplay between ecological communication and educational literacy in preserving and modernizing this cultural heritage. Historically, Zhongdukou was a pivotal hub for ceramic production and trade, shaping Jingdezhen's socio-economic and cultural landscape. However, modernization and urbanization have introduced infrastructure instability, diminishing cultural identity,
Conflicts of interest: None Funding: None	and environmental degradation. Drawing on Niklas Luhmann's systems theory, the research explores the dynamic interactions between ceramic art as a social system and its ecological and socio-economic environment while identifying sustainable development strategies. Using interdisciplinary methods, including historical document analysis, field interviews, and policy evaluation, the study investigates Zhongdukou's historical significance, current challenges,
	and potential pathways for integrating traditional craftsmanship with modern educational frameworks. Results highlight that educational literacy is critical in bridging cultural preservation and modernization by fostering community engagement, promoting sustainable production practices, and leveraging innovative pedagogical tools such as digital platforms and

interactive exhibits. Moreover, ecological communication mechanisms enable ceramic art to adapt to modern demands while maintaining cultural and environmental integrity. The findings underscore the need for collaborative efforts among local artisans, policymakers, and educators to ensure Zhongdukou's enduring legacy. This research provides a comprehensive framework for sustainable cultural and ecological development, offering theoretical and practical insights that contribute to global discussions on heritage preservation, educational innovation, and environmental sustainability.

Key words: Ceramic Arts, Modern, Ecological Communication, Educational Literacy

## **INTRODUCTION**

The Zhongdukou Wharf in Jingdezhen is significant in China's rich cultural and economic history as a cornerstone of ancient ceramic trade and craftsmanship. Originating in the Song Dynasty, this once-thriving hub facilitated the global dissemination of Jingdezhen ceramics, symbolizing ancient Chinese society's cultural and artistic achievements. Renowned for its Qingbai and Blue-and-White ceramics, the wharf was integral to developing international trade networks, including the "Ceramic Road," which succeeded the famed "Silk Road." However, over time, social and economic transformations, coupled with shifts in transportation modes, led to the decline of Zhongdukou's prominence. Today, efforts are underway to redefine its cultural and educational significance, making it a focal point in modernizing China's ceramic heritage (Li, 2012).

The contemporary era presents challenges and opportunities for preserving and disseminating Jingdezhen's ceramic culture. The rise of digital technology, globalization, and urban development has pressured traditional industries, raising concerns about the sustainability of intangible cultural heritage. Within this context, Zhongdukou is a microcosm of broader efforts to integrate traditional artistry with modern cultural and economic practices. Underpinning these efforts is the theoretical framework of ecological communication, which views the interplay between social systems and their environments as critical to fostering cultural continuity and innovation. This study applies this lens to explore the evolving role of Zhongdukou as an epicenter of ceramic art, emphasizing its potential as a medium for cultural exchange and education.

Establishing the Jingdezhen National Ceramic Culture Inheritance and Innovation Pilot Zone, alongside the Ceramic Culture and Ecological Protection Experimental Zone, underscores the strategic importance of ceramic art in advancing Chinese cultural modernization. These initiatives reflect China's commitment to preserving historical and cultural heritage while promoting its global relevance in

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a rapidly modernizing world. By leveraging the ecological elements of culture and art, these projects aim to create an integrated platform that connects traditional craftsmanship with contemporary societal needs, fostering economic vitality and cultural literacy. Zhongdukou, as a historical and cultural landmark, exemplifies this dual commitment, offering a unique case study for sustainable cultural regeneration.

Central to this research is the role of ecological communication in shaping the modern dissemination of Jingdezhen's ceramic arts. Drawing on Niklas Luhmann's theoretical framework, this study examines how social systems interact with cultural and environmental contexts to sustain traditional art forms. It employs a multi-methodological approach, incorporating qualitative and quantitative analyses to investigate the communication mechanisms that underpin the survival and evolution of Zhongdukou's ceramic culture. By addressing factors such as environmental interactions, cultural identity, and the self-organizing nature of social systems, the research provides insights into the role of ceramic arts in promoting educational literacy and cultural cohesion (Zhou & Liu, 2018).

This study contributes to the broader discourse on cultural modernization by aligning with the Chinese path to modernization, emphasizing human-centered development, harmony with nature, and shared prosperity. Guided by Xi Jinping's vision of socialism with Chinese characteristics, the research aims to bridge the gap between traditional cultural heritage and contemporary educational needs. By situating Zhongdukou within the global context of ceramic art dissemination, this work seeks to enhance its cultural relevance and sustainability. It offers theoretical and practical insights for preserving Jingdezhen's ceramic legacy, positioning Zhongdukou as a vital node in the global cultural landscape, and a model for integrating traditional arts with modern educational and ecological frameworks.

#### **Research Objective**

The primary objective of this research is to explore the ecological communication mechanisms underlying the dissemination and modernization of ceramic art in Zhongdukou, Jingdezhen, within the framework of China's cultural modernization policies, to identify strategies for aligning traditional ceramic culture with contemporary societal and educational needs, fostering its integration into modern cultural society, to serve a sustainable platform for cultural innovation, global dissemination, and educational literacy, contributing to the broader objectives of preserving and revitalizing China's intangible cultural heritage in the context of modernization.

# **RESEARCH METHODS**

This thesis generally adopts an integrated approach, combining various research methods, such as historical research, case study, participant observation, data collection and analysis, and cross-scientific research, to explore the ecological dissemination mechanism of ceramic art and educational literacy in modern Zhongdukou in a comprehensive and indepth way (Table 1).

Table 1. Research methods in this article

<b>Research Method</b>	Sample and Scope
Historical Research Method	Involves historical documents and ancient trade records of Jingdezhen, aiming to trace the development history of the Zhongdukou.
Case Study Method	Taking Zhongdukou as the main case, this method focuses on a detailed study of its history, culture, and dissemination mechanisms to deeply understand its role in the spread of ceramic art.
Participant Observation Method	Includes Zhongdukou and the surrounding community, engaging in deep participant observation of the daily life and cultural atmosphere of Zhongdukou through interactions with local residents and practitioners.
Data Collection and Analysis Method	Involves local residents and ceramic practitioners, collecting data through surveys and in-depth interviews, followed by appropriate qualitative and quantitative analysis.
Interdisciplinary Research Method	Engages multiple fields, including sociology, cultural studies, economics, etc., to comprehensively understand the multidimensional mechanisms of ceramic art dissemination in Zhongdukou.

Source: Collected by Junyi Cao, 2024.

#### RESULTS

#### Zhongdukou in the Landscape of Jingdezhen's Ceramic Industry

Jingdezhen is a unique ceramic handicraft city, and the ceramic industry and the formation of its urban pattern play a considerable influence. Along the river to build kilns, along the kiln into the city became the ceramic industry city form characteristics. According to scholars, the ancient city of Jingdezhen has three prominent features: first, along the river wharf, the street in front of the city has become a critical zone (Li, 2012). This is due to the ceramic raw materials, fuel, the supply of agricultural by-products, and ceramic output; merchants rely mainly on the waterway wharf and ferry. Second, the imperial kiln factory became the center of the city. From the Qing dynasty "Floe Liang County Record" on the map, the Jingdezhen city pattern to the imperial kiln factory as the development center is obvious. Jiaqing Jingdezhen full map, for example, the imperial kiln factory west of the county public hall, inspector general's office, east of the Raozhou branch of the House, You Tao ancestral temple, Raozhou Guild Hall, Tianhou Palace, Su Hu Guild Hall, Nanchang Guild Hall, Huizhou Guild Hall, five kings temple, the master of the division of the temple are surrounded by the imperial kiln like the stars arching the moon (Wang & Zhang, 2016). Five miles around the Imperial Ware Factory, it is located in Pearl Hill in the center of the neighborhood. Thirdly, the absolute dominance of the ceramic industry in Jingdezhen influenced the function and layout of the city. "Kilns and billet workshops were mixed with residential areas and shops, making the layout of the city not strict (Xu, 2020). As a result of the division of labor in the ceramic industry, a number of professional gathering streets and streets with the same family and fellow townspeople have appeared".

Zhongdukou is located on the east bank of the Changjiang River, Zhangshu Lane mouth of the river bank, west of the Changjiang River, the ancient for the river crossing and market (Figure 1). Because Li Shi Ferry is on the top and eighteen ferries are on the bottom, this ferry is in the middle, called Zhongdukou. It was built during the Song Dynasty, and a market slowly formed. At the same time, it was also a dock for firewood and hewing boats, an essential place for transport. The pier is 150 meters long, with 15 berths, a minimum water depth of 0.5 meters at the front, and a maximum berthing capacity of 100 tonnes. At that time, nearly one hundred boats ran in the Changjiang River. The Zhongdukou was mainly dominated by the Crow's Tail boats and Donggang boats, which were wooden boats with small carrying capacity and were mainly used to hold up the haggard, and when encountering headwinds or crossing the beaches, the boatmen needed to wade into the water to push the boat or row with oars and sculls. Because of the significant demand for boats, many people were engaged in the boat-building industry in Jingdezhen. In contrast, the merchants in the boat parts industry were mainly concentrated in the area around Zhongdukou (Xu, 2020).

Before 1935, Jingdezhen's old town, Changjiang River, had a main channel without a bridge on both sides. Of the people, goods in and out are bound to be completed by boat through the pier. The Pontoon bridge was built in the early years of the Republic of China, on the ferry near the mouth of the Changjiang River by several ferries connected to become, on the wooden planks of the footbridge. After founding New China, it was rebuilt as a wooden vehicular bridge with a width of 6 meters, connected by 24 wooden boats side by side. At that time, the pontoon bridge could carry up to 10 tons of load and 20 tons of displacement; the total length was about 165 m. In 1958, the bridge was widened and the load capacity was increased; in 1978, in order to adapt to the needs of modern traffic and customary use in the dry season, the wooden bridge boats were replaced by cement bridge boats and steel planks replaced the wooden planks; the bridge was taken out of service in 1996, and it was rebuilt and put back into service in 2005 (Zhou & Liu, 2018).

With the completion and opening of the Ceramic Bridge and Zhushan Bridge, the pontoon bridge is only for pedestrians and small vehicles (Li, 2012). The pontoon bridge facilitates the residents on both sides of the East and West Coasts to live, travel, and have leisure; it has also become a humanistic landscape that Jingdezhen cannot give up. It accompanies the historical city of several generations of people growing up together memory bridge; for love of water and love of boats, Changjiang people have an inseparable sentiment. On the other hand, it also carries a significant safety hazard; pedestrians fall into the water, and flooding breaks the chain.



**Figure 1.** The ferry port and the imperial kiln factory on the Qing Jiaqing map of Jingdezhen. Source: Image from "Fuliang County Records" Qing Daoguang XII

Zhongdukou played a crucial role in the history of Jingdezhen's ceramic art development. Its existence was not just a logistics node but the heart of the development of Jingdezhen's ceramic industry, with far-reaching impacts on the city's socio-economic and ecological structure (Figure 2).

#### The Ceramic Art of Modern Zhongdukou in Jingdezhen: Ecological Communication Mechanisms

Jingdezhen, the historic porcelain capital of China, is renowned for its exquisite ceramic art and as a meeting point between traditional Chinese craftsmanship and modern innovation. In this city, the Zhongdukou area is particularly unique, as it used to be the core of ceramic production and a focus area for cultural and economic activities. This chapter will delve into the ecological transmission mechanism of ceramic art in Zhongdukou, revealing the complex interaction between Zhongdukou ceramic art and its socio-ecological environment through the systematic theory of Niklas Luhmann.

Based on the influence of Niklas Luhmann's systems theory (Luhmann, 1989), the analysis of "ceramic art" as a social system and "Jingdezhen Zhongdukou" as its ecological environment focuses on the dynamic interactions and complex interdependencies between the two. In Luhmann's theory, social systems are self-sustaining through the operation of self-reference while interacting with the complexity of the environment. Here, the interaction between the social system (ceramic art) and its environment (Jingdezhen Zhongdukou) is not just a simple causal relationship but a more profound, dynamic interaction (Yang & Wang, 2018).

Firstly, ceramic art is viewed as a unique social system that encompasses the physical process of making ceramics and its cultural, historical, and economic activities. This system constantly generates and maintains its uniqueness while reflecting how it responds to and adapts to changes in its ecological environment. Each piece of ceramic art can be seen as a system's response to environmental change and a symbolic system that conveys specific cultural and historical messages.

As the ecological environment of this social system, "Jingdezhen Zhongdukou" provides the necessary resources



Figure 2. Crossing the beach (Chinese Landscape Paintings)

Source: Picture by Water A. Staehelin from "The Book of Ceramic"

(e.g., raw materials, skills inheritance, market demand, etc.) and conditions (e.g., cultural identity, technical support, policies, and regulations, etc.) that influence the production and development of ceramic art (Chen, 2021). The geographical location, historical background, and socio-economic conditions of Nakadokou all shape the specific performance and development trajectory of ceramic art.

In this perspective, the relationship between ceramic art and Jingdezhen Zhongduo can be understood as a dynamic interaction between a complex system and its environment. The system does not merely passively adapt to its environment but constantly redefines itself in its interaction with it while also influencing changes in the environment. This twoway, dynamic interaction is a central concept in Luhmann's theory, emphasizing the complexity of the non-linear, non-causal link between system and environment.

This analysis provides a deeper understanding of how ceramic art maintains and develops its cultural and artistic values in interaction with its ecological environment and how Jingdezhen Zhongdukou promotes regional cultural and economic prosperity through this interaction. This system-environment perspective provides a more comprehensive and in-depth framework for exploring and understanding the dissemination and development of culture and art in a socio-ecological environment.

Within Niklas Luhmann's systems theory framework, the ecological mechanism of Jingdezhen Zhongdukou ceramic art demonstrates the complex interaction between it and the social and ecological environment (Luhmann, 1989). This interaction is not just a simple reaction between culture, art, and environmental protection but also a dynamic and systematic exchange that reveals the non-linear, non-causal, and complex connection between society and the environment (Zhang, 2020).

As a rich ecological environment, the Jingdezhen Zhongdukou area provides ceramic art resources and conditions, including raw materials, skills inheritance, and market demand. These resources not only support the physical production of ceramic art but also profoundly influence the direction of the creation and dissemination of culture and art, which in turn shapes its unique cultural and artistic value. In this process, ceramic art is a product of the ecological environment and becomes a significant force to promote and influence environmental change. Ceramic art continues to redefine itself in its interaction with the Zhongdukou ecosystem. This two-way interaction contributes to the region's cultural enrichment and economic prosperity and reflects the complementary nature of cultural and economic activities. For example, the production and sale of ceramic artwork showcases the region's cultural identity and promotes tourism and cultural goods markets, thereby deepening Jingdezhen's cultural identity and contributing to economic diversification.

Through Luhmann's theory, ceramic art is viewed as an independent social system, and how it interacts with and feeds back into the ecological environment that is the Jingdezhen Zhongdukou through its internal communication structure is explored (Wang & Li, 2017). This includes interactions with the economic, political, scientific, technological, and educational systems, each of which influences and shapes the development of ceramic art through its specific binary coding. This inter-systemic interaction has helped ceramic art to adapt to social and environmental changes and has enabled the art to be innovative and widely disseminated in modern society.

Luhmann's ecological communication theory focuses on how information is constructed, understood, and responded to within a system. It emphasizes the impact of environmental changes on social structures and how societies respond to these changes through internal communication and decision-making processes. The ceramic art of Zhongdukou in Jingdezhen demonstrates a sustainable model of culture and environmental protection through its eco-communication mechanism, which not only enhances the communication effect of the art but also strengthens its social function and influence as a cultural heritage.

# The Ceramic Art of Modern Zhongdukou In Jingdezhen: Educational Literacy

The modernization of cultural heritage sites poses challenges and opportunities for developing educational frameworks to preserve and promote traditional art forms. Jingdezhen Zhongdukou, a historic hub for ceramic production and trade, serves as an emblematic site for exploring the intersections of traditional craftsmanship, modern cultural practices, and educational literacy. This chapter examines how educational initiatives can be integrated into the sustainable development of Zhongdukou's ceramic arts, emphasizing the role of educational literacy in balancing cultural preservation, ecological resilience, and socio-economic modernization.

Zhongdukou has historically been a vital node in Jingdezhen's ceramic industry, serving as a transportation hub and marketplace for ceramic trade. Its rich cultural heritage, reflected in historical artifacts, traditional kiln sites, and oral histories, offers a unique opportunity for educational initiatives. Reconstructing and teaching the history of Zhongdukou can provide a foundational understanding for both residents and visitors, fostering a deeper appreciation of its cultural significance. Educational programs rooted in historical context can also serve as a bridge, connecting traditions with contemporary societal values (Brown & Keane, 2020). Educational literacy in Zhongdukou extends beyond formal education to encompass community-based learning, skill acquisition, and cultural dissemination. Traditional ceramic production techniques, such as glaze application, firing methods, and handcrafting, embody intricate knowledge systems that require dedicated preservation efforts. Integrating these techniques into educational programs ensures continuity while fostering a sense of pride and identity among local communities (Urry & Larsen, 2011). Furthermore, by creating opportunities for hands-on learning and interactive workshops, Zhongdukou can engage broader audiences, cultivating a new generation of artisans and enthusiasts who appreciate ceramic art's cultural and artistic value.

Modern educational strategies, such as digital platforms, virtual reality (VR), and interactive exhibits, offer innovative ways to teach and disseminate ceramic art. In Zhongdukou, these technologies can complement traditional learning methods, providing dynamic and engaging experiences for students and visitors. For instance, VR can recreate historical scenes of bustling ceramic markets, while digital guides can offer multilingual content for a global audience. These innovations not only make learning accessible but also enhance the educational value of Zhongdukou as a cultural tourism destination.

Integrating educational literacy into the development of Zhongdukou must address the tension between preserving traditional practices and embracing modernization. Overcommercialization and rapid urbanization risk overshadowing ceramic art's intrinsic cultural and educational values. Educational programs prioritize authenticity and cultural integrity, ensuring that modernization efforts align with cultural preservation and ecological sustainability goals (Smith & Waterton, 2019). Collaborative efforts between educators, local artisans, and policymakers are essential to navigate these challenges effectively.

Educational initiatives in Zhongdukou have the potential to drive socio-economic development by creating employment opportunities and fostering community engagement. Training programs for ceramic artisans and cultural tourism activities can generate income while preserving traditional skills. Partnerships with academic institutions, such as Jingdezhen Ceramic University, can enhance the quality and scope of these programs. Moreover, integrating entrepreneurial training into the curriculum can empower artisans to market their crafts globally, contributing to the region's economic vitality.

The sustainability of Zhongdukou's ceramic industry is closely tied to environmental stewardship. Educational programs should incorporate environmental literacy, teaching sustainable production practices, and resource management. Workshops on eco-friendly glaze formulations, waste recycling, and energy-efficient kiln technologies can reduce the environmental footprint of ceramic production. By linking ceramic arts with ecological education, Zhongdukou can become a model for integrating cultural heritage with environmental sustainability (Holtorf, 2020).

Educational literacy is a cornerstone for the sustainable development of Zhongdukou's ceramic arts. By preserving traditional knowledge, embracing modern pedagogical tools, and promoting socio-economic and environmental sustainability, educational initiatives can transform Zhongdukou into a dynamic center of cultural learning and innovation. This chapter highlights the need for a comprehensive educational strategy that balances cultural preservation with modernization, ensuring the enduring legacy of Jingdezhen's ceramic heritage for future generations. Through such efforts, Zhongdukou can reclaim its historical significance while contributing to the global cultural and educational sustainability discourse.

#### DISCUSSION

This research explores the dynamic evolution of Jingdezhen Zhongdukou's ceramic arts through the lens of ecological communication theory, revealing its transformative journey from a historical logistical hub to a modern cultural and educational landmark. By integrating Niklas Luhmann's theoretical framework, the research expands the discourse on ceramic art to encompass the interplay between cultural heritage, ecological systems, and socio-economic factors. Historical document analysis and field interviews confirm Zhongdukou's critical role in fostering economic and cultural development during the Ming and Qing dynasties, including its contributions to the expansion of porcelain production and its influence on related industries. While prior studies have emphasized Zhongdukou's marginalization in modernization, this research highlights its ongoing potential as a vibrant cultural and economic exchange hub. The findings underscore the importance of government policies and community engagement in revitalizing Zhongdukou's cultural heritage, suggesting that modern communication strategies and creative industries can bridge the gap between traditional practices and contemporary demands, ensuring cultural continuity and economic sustainability.

Integrating educational literacy into the ecological communication framework provides a fresh perspective on preserving and disseminating Zhongdukou's ceramic heritage. This approach not only enriches our understanding of the bidirectional interactions between ceramic art and its socio-ecological environment but also emphasizes the role of education in fostering cultural awareness and skill development. By linking ceramic arts with modern pedagogical tools and interactive experiences, the study demonstrates how educational initiatives can address the challenges of cultural preservation and economic viability. While limitations such as the small sample size and reliance on qualitative methods may constrain the generalizability of findings, the study offers a robust conceptual foundation for future interdisciplinary research. Expanding the scope of analysis through large-scale data integration and advanced technological tools could deepen insights into the sustainable development strategies of ceramic arts, contributing to broader applications in cultural heritage management and modernization.

### CONCLUSION

This research applied Niklas Luhmann's ecological communication theory to examine the intricate interplay between Jingdezhen Zhongdukou's ceramic art and its socio-ecological environment, offering a nuanced understanding of its historical, cultural, and economic evolution. Zhongdukou has transitioned from a logistical hub in the global porcelain trade to a symbol of cultural heritage facing the challenges of modernization. By analyzing its ecological communication mechanisms, this study highlights how ceramic art interacts with environmental, cultural, and socio-economic systems, shaping and being shaped by its surrounding context. These interactions reveal a dynamic process in which ceramic art not only reflects regional culture but also actively contributes to environmental adaptation and cultural resilience.

The findings underscore the significance of integrating ecological communication and educational literacy into strategies for the sustainable modernization of Zhongdukou's ceramic art. These strategies emphasize the synergy between cultural preservation, economic innovation, and community engagement, ensuring that ceramic art retains its cultural vitality and relevance in the modern era. By fostering multi-stakeholder collaboration, enhancing infrastructure, and leveraging modern communication methods, Zhongdukou can strengthen its role as a bridge between historical legacy and contemporary development. Educational initiatives play a pivotal role in this transformation, cultivating cultural awareness and technical expertise, and ensuring the continuity of ceramic traditions. This comprehensive approach positions Zhongdukou not only as a vital cultural landmark within Jingdezhen but also as a global exemplar of sustainable cultural heritage management and modernization.

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