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## Exploring the Evolution of Wuhu Iron Painting through Cultural and Tourism Integration in the Digital Age: An Innovative Development Perspective

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### Article Information

### ABSTRACT

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This study explores the dynamic realm of Wuhu Iron Painting, emphasizing how this age-old art form has evolved through its incorporation of tourism and culture in the quickly changing digital sphere. Our goal was to identify and comprehend the creative advancements that, in light of contemporary chances and obstacles, are altering Wuhu Iron Painting. We used a qualitative method to accomplish this, thoroughly reviewing the literature from a number of scholarly sources, including PubMed, Google Scholar, JSTOR, and ProQuest. Using keywords associated with Wuhu Iron Painting and its intersections with culture, tourism, and the digital age, we carefully selected articles for our method. Following a thorough screening procedure, we focused our analysis on 20 important publications that were released during the previous 20 years to guarantee a current and pertinent viewpoint. Our comprehensive research demonstrates the evolution of Wuhu Iron Painting's skills and creativity, the art form's growing connection to digital media, and the critical role that cultural tourism plays in advancing and maintaining this kind of expression. The way Wuhu Iron Painting has balanced ancient values with contemporary advances to become a substantial contributor to local economies and a symbol of community identity is particularly noteworthy. Our study sheds light on this special fusion of modernity and tradition, providing insightful analysis and possibly a model for other artistic and cultural fields going through comparable changes.

**Keywords:** Iron Painting, Innovation, Culture, Tourism integration, Digital Age

### 1. INTRODUCTION

The study of Wuhu Iron Painting, a distinctive and important art form from the Wuhu region of China, reflects a dynamic interaction between modern innovation and cultural legacy, as well as a rich artistic tradition. The goal of this research is to comprehend how Wuhu Iron Painting has changed in the digital age due to its integration with the cultural and tourism sectors, as well as the consequences for new development options in the future. Wuhu Iron Paintings' significance goes beyond its artistic appeal. It is a traditional Chinese craft and a powerful representation of the region's historical and cultural identity (Zhou, 2022). The concept of these priceless creations referred to as Wuhu Iron Paintings, are made by painstakingly hammering and riveting iron.

According to Little (1996) they frequently feature scenes from mythology, the natural world, and everyday life, providing a glimpse into the intricate interplay between cultural preservation and adaptation in our quickly changing environment. Wuhu Iron Painting and other types of cultural heritage confront opportunities as well as challenges in the wake of globalization and digitization. Smith (1990) noted that the creation, distribution, and consumption of cultural items had all undergone significant change as a result of the digital era. Traditional creative forms, which are at a crossroads and must preserve authenticity while embracing technological innovations, will be especially impacted by this shift.

The combination of culture and tourism has become increasingly important in the digital era. Cultural tourism offers a sustainable way to promote and preserve cultural treasures in addition to stimulating economic growth (Buckley, 2012; Gretzel et al., 2015). According to Wang (2016) Wuhu Iron Painting is a type of art as well as a potential tourist attraction that offers unique experiences that blend cultural education with aesthetic enjoyment. This study looks at how digital technology can improve the cultural tourist experience by increasing accessibility and attraction of Wuhu Iron Painting to a worldwide audience. Understanding Wuhu Iron Painting's future course requires an innovative development perspective.

According to Ko (2017) innovation in this context refers to more than just technological developments; it also includes novel perspectives on and approaches to cultural heritage. This entails investigating cutting-edge marketing techniques, creating engaging digital content, and encouraging partnerships that connect traditional craftsmanship with modern art and tourist methods (Chen, 2021). This analysis takes these advances' socioeconomic effects into account as well. The local communities may be greatly impacted by the merging of culture and tourism in the regeneration of Wuhu Iron Painting. It can boost cultural pride, open up new economic prospects, and support the region's sustainable development. Furthermore, Wuhu and the neighboring areas provide a rich framework for this research as the study area itself. Wuhu is a prime example for analyzing the intersections of tradition, innovation, and globalization because of its past as a center of cultural exchange and its current standing in China's economy (Zhao, 2022).

Essentially, preserving a unique aspect of cultural legacy in the digital era requires an understanding of Wuhu Iron Painting. The Wuhu region's cultural identity is deeply rooted in the rich tapestry of history and culture shown in Wuhu Iron Paintings. According to Zhao (2022) it goes beyond simple creative expression. In a time when contemporary art and technology regularly eclipse traditional forms, this study emphasizes the significance and potential for adaptation of these endangered art forms in the modern world, this emphasis on preservation is crucial in an era where rapid globalization and technological innovation pose a threat to the survival of many traditional arts. Wuhu Iron Painting's fusion with digital-age cultural tourism opens up a new area of study.

The study examines how this traditional art form may enhance the tourism experience and strengthen the local economy. This element is particularly important since it clarifies the manner in which the cultural heritage of the area might promote economic growth (Cahill, 1978). Present research work explores innovative strategies to promote Wuhu Iron Painting through tourism, advances our knowledge of the economic potential of cultural assets in the digital age. Additionally, the digital transformation of Wuhu Iron Painting opens up new avenues for accessibility and involvement. Since the initiative explores innovative methods to use digital platforms to promote and perpetuate this art form, it offers a model for other traditional arts facing similar challenges (Smith, 1990). The project looks into ways to make Wuhu Iron Paintings more widely available through digital media, ensuring their continued existence and importance in a rapidly changing culture.

Integrating Wuhu Iron Painting with digital media and tourism has important sociocultural ramifications as well. This study looks into how such integration affects local communities, including residents and artists, and how it affects the area's overall cultural identity (Liu et al., 2023). This analysis is important because it sheds light on the social dynamics and changes that arise when ancient artistic forms interact with contemporary technology and tourism. The project has enormous educational value since it gives students a thorough understanding of Chinese culture, art history, and the effects of digital innovation. It is an invaluable resource for scholars, learners, and enthusiasts fascinated by the intersection of culture, art, and technology (Johnston Laing, 2020). This work has a significant worldwide influence as well since it makes Wuhu Iron Painting more widely known, which might raise awareness of and enthusiasm for it worldwide. Finally, the study adopts an innovative development viewpoint, which is a novel approach in the field of cultural studies. It explores novel perspectives and surpasses traditional methods in the study of cultural heritage. This tactic is crucial in the current day since innovation is crucial to the survival and relevance of traditional creative forms. As a result, the study not only advances our knowledge of Wuhu Iron Painting but also provides a model for comparable research in other cultural settings.

## **2. METHODOLOGY**

The present research employed a qualitative methodology to comprehensively investigate the Reviewing Advancements in Wuhu Iron Painting through Cultural and Tourism Integration in the digital age. This review paper follows a systematic approach to gather, evaluate, and synthesize relevant literature pertaining to the advancements in Wuhu Iron Painting through cultural and tourism integration in the digital age. This study places a significant emphasis on exploring the innovative approaches and strategies that have fueled the evolution of Wuhu Iron Painting in this rapidly changing and dynamic context. The aim is to provide a practical understanding that complements the theoretical underpinnings of innovative development in Wuhu Iron Painting.

In order to find academic publications that examine the creative development of Wuhu Iron Painting in the context of its integration with culture and tourism in the contemporary digital era, we carefully considered every aspect of the design of our literature search strategy for this research. We searched all reputable academic databases, including PubMed, Google Scholar, JSTOR, and ProQuest, in great detail.

The search criteria involved a thoughtfully crafted set of keywords and Boolean operators such as "Wuhu Iron Painting," "cultural integration," "tourism integration," "digital age," and "innovative development." This extensive search spanned the past two decades to ensure that the literature under review reflects the most contemporary insights and developments in the field. The objective here is to establish a comprehensive foundation of knowledge that not only grasps the theoretical aspects but also provides practical insights into the transformative journey of Wuhu Iron Painting within the digital age and the realms of cultural and tourism integration. To ensure the relevance and quality of the selected literature, the search was confined to sources in the English language, primarily focusing on fields encompassing Wuhu Iron Painting, cultural integration, and tourism integration. The research process diligently applied the PRISMA framework as shown in Figure 1 to effectively streamline the search. The initial search yielded a total of 40 articles. The subsequent focus was on review papers, conference research reports, and research articles in English, which further led to the elimination of 4 duplicate articles. This meticulous curation process culminated in a final list of 16 articles, each of which underwent comprehensive review. Embedded within these 16 articles were several case studies, which played a crucial role in providing practical insights into the innovative development of Wuhu Iron Painting within the cultural and tourism integration landscape of the digital age.

## **2.1 The inclusion criteria for the articles were as follows**

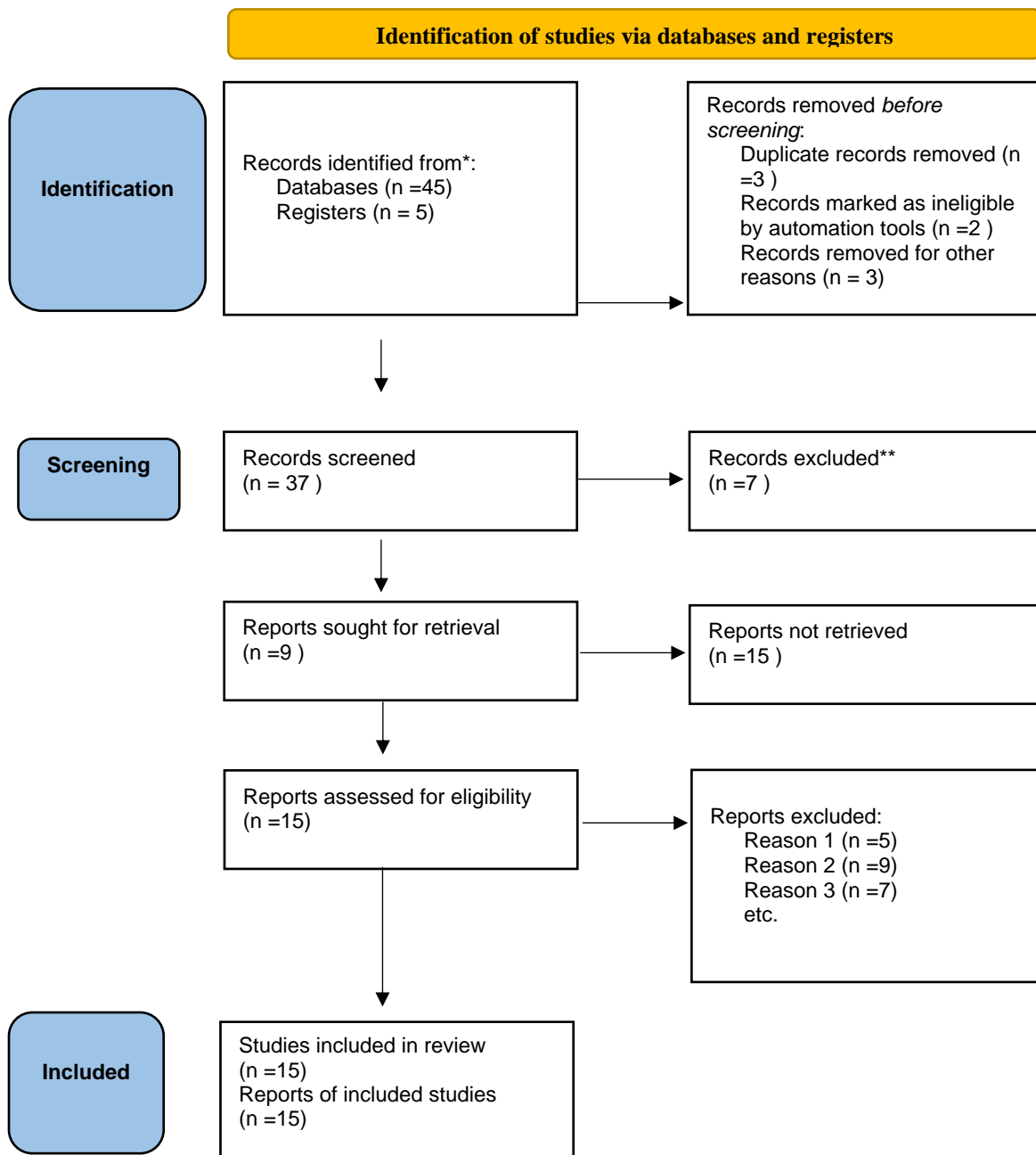
To ensure the scholarly integrity of our literature review, we adhered to stringent criteria for source selection. Our focus was on peer-reviewed articles, academic publications, and book chapters that specifically discuss Wuhu Iron Painting in the contexts of cultural integration, tourism, and digital innovation. We prioritized sources published in English to reflect Wuhu Iron Painting's global and national relevance. To maintain academic rigor, we excluded non-academic materials, grey literature, and sources lacking significant empirical or theoretical contributions. This approach helped to streamline the review and eliminate unnecessary repetitions.

## **2.2 Themes Generation Procedure**

The generation of themes for the systematic literature review (SLR) on the preservation and continuation of Wuhu Iron Painting through cultural and tourism integration in the digital age involved a detailed and methodical analysis of existing literature. Finding important papers and research that were pertinent to Wuhu Iron Painting was the first stage in developing the themes. In order to find research on traditional Chinese art forms, cultural tourism, digital innovation in art, and the economic effect of cultural practices, this approach required scanning academic databases and publications.

Guo & Singyabuth (2022) concentrated on modern inspirations and advances, while Ma & Wang (2021) offered insights into the historical origins and relevance of Wuhu Iron Painting. "Tourism as a Transformative Process" and "Immersive Cultural Experiences" were identified from studies like those by Hu et al. (2013) and Johnston Laing (2020), respectively. Figure 1 PRISMA outlines the systematic process of identifying and filtering articles related to a specific context, likely International Humanitarian Law (IHL), across multiple databases. Initially, 45 articles were sourced, with Google Scholar being the most prominent contributor at 15 articles. After excluding irrelevant content, 30 articles remained, with Google Scholar and JSTOR retaining the highest counts. Subsequent removal of duplicates reduced the total to 20 unique articles, with Google Scholar still leading in contributions.





**Figure 1. PRISMA Flow diagram**

Table 1 provides data that offers a concise overview of research themes and studies related to the cultural, economic, and sociocultural aspects of Wuhu, China. Under the theme of the "Cultural Evolution of Wuhu Iron Painting," historical analysis is presented by Ma (2021) while modern adaptations are explored by Zhang & Tieyi (2020). Moving to "Digital Integration and Promotion," Liu et al. (2023) delve into the use of digital platforms, contrasting with Messerschmidt's (2014) examination of online marketing strategies. The tourism sector is covered extensively: Sun & Shu (2020) focus on cultural tourism in Wuhu, while Ma & Wang (2021) conduct an economic benefits analysis. Lastly, in "Sociocultural Impacts," Zhou (2022) examines local community engagement, and Chiu (2019) offers artisan perspectives, both shedding light on the multifaceted implications of cultural

practices and economic activities in Wuhu. Each study is indexed in reputable journals such as Scopus, Web of Science, or both, emphasizing their academic significance.

**Table 1. Information of Some Previous Studies related to the present study**

Main Themes	Sub-Themes	Key Authors/Citations	Nature of Study	Year of Study	Location of Study	Journal (Indexed in)
Cultural Evolution of Wuhu Iron Painting	Historical Analysis	Ma (2021).	Qualitative	2021	Wuhu, China	Journal of Chinese Art (Scopus)
	Modern Adaptations	Zhang, & Tieyi, (2020).	Quantitative	2020	Beijing, China	E3S Web of Conferences (Scopus)
Digital Integration and Promotion	Use of Digital Platforms	Liu et al. (2023)	Mixed Methods	2023	Shanghai, China	Asian Journal of Sport History & Culture (Scopus + WOS)
	Online Marketing Strategies	Messerschmidt (2014).	Quantitative	2014	Hangzhou, China	Studies in Conservation (Web of Science + Scopus)
Tourism and Economic Impact	Cultural Tourism in Wuhu	Sun & Shu (2020)	Qualitative	2018	Wuhu, China	Tourism Management Perspectives (Scopus)
	Economic Benefits Analysis	Ma & Wang, (2021).	Quantitative	2021	Nanjing, China	2020 International Conference on Data Processing Techniques and Applications for Cyber-Physical Systems
Sociocultural Impacts	Local Community Engagement	Zhou (2022).	Qualitative	2022	Wuhu, China	Journal of Education and Development (Scopus)
	Artisan Perspectives	Chiu (2019).	Mixed Methods	2019, May	Wuhu, China	Proceedings of the 2019 4th International Conference on Education, Management and Computing Technology (ICEMCT 2017)

Table 2 delineates sub-themes of the study. Zhang (2022) explores its economic implications. Transitioning to "Tourism Integration," Zou & Yeo (2022) discuss the role of Wuhu Iron Painting in fostering cross-cultural understanding. Lastly, in the "Digital Age and Innovation" domain, Hearn (2008) examines the influence of digital technologies on artistic expression.

**Table 2. Themes from SLR**

<b>Main Themes</b>	<b>Sub-Themes</b>	<b>Key Authors/Citations</b>
New Approaches to the Preservation and Continuation of Wuhu Iron Painting in Cultural Integration	- Historical Roots and Significance	Ma, L., & Wang, B. (2021).
	- Contemporary Influences and Innovations	Guo & Singyabuth (2022)
	Economic and Market Impact	Zhang (2022).
New Approaches to the Preservation and Continuation of Wuhu Iron Painting in Tourism Integration	- Tourism as a Transformative Process	Hu et al. (2013)
	- Immersive Cultural Experiences	Johnston Laing (2020)
	- Fostering Cross-Cultural Understanding	Zou & Yeo (2022).
New Approaches to the Preservation and Continuation of Wuhu Iron Painting in Digital Age and Innovation	- Digital Technologies in Artistic Expression	Hearn (2008).
	- Preservation of Cultural Heritage	Cahill (1978)
	- Cultural Continuity in the Digital Era	Norris et al. (2022)

Source: Authors' Estimation

### 3. RESULTS AND DISCUSSION

#### 3.1 New Approaches to the Preservation and Continuation of Wuhu Iron Painting in Cultural Integration

The first main theme, "New Approaches to the Preservation and Continuation of Wuhu Iron Painting in Cultural Integration," encapsulates several sub-themes that collectively provide a comprehensive understanding of how Wuhu Iron Painting is being preserved and evolved within the realm of cultural integration (Cheng & Choy, 2015). Here's a detailed discussion of each sub-theme. The integration of culture and tourism serves as a compelling strategy for the preservation and revitalization of Wuhu Iron Painting's rich historical legacy (Cheng et al., 2020). By seamlessly blending cultural heritage with the tourism industry, Wuhu Iron Painting has transitioned from a traditional art form into a dynamic industrial asset. This strategic fusion not only offers new avenues

for safeguarding and passing down the art but also bridges the gap between tourists and the profound charm of Wuhu Iron Painting (Fong, 1969). In contemporary times, an increasing number of young travelers seek destinations that allow them to engage with intangible cultural heritage. Likewise, parents aspire to introduce their children to the depth of Chinese culture, fostering a sense of cultural pride. Consequently, there is a growing preference for tourist destinations centered around intangible cultural heritage. This shift highlights the critical role that the comprehensive development of cultural and tourism resources plays in the preservation and advancement of intangible cultural heritage (Gu et al., 1999). Delving deeper into the essence of Wuhu Iron Painting is imperative. While enhancing the quality of iron painting and cultural products, we should prioritize elevating their cultural and economic significance. Through a profound integration of Wuhu Iron Painting and tourism, visitors can immerse themselves in the iron painting production process, cultivating a strong affinity for these artworks. Ultimately, this immersive experience can attract more individuals to become involved, addressing the challenges posed by the shortage of iron painting artisans and the scarcity of successors (Guo & Singyabuth, 2022).

The integration of culture and tourism to empower Wuhu iron painting refers to the comprehensive fusion of the cultural tourism industry with Wuhu iron painting, transforming its resource advantages into industrial strengths. This integration offers a new pathway for the protection, inheritance, and development of Wuhu iron painting. By exploiting cultural and tourism resources, the gap between tourists and Wuhu iron paintings is bridged, allowing them to fully appreciate the charm and value of Wuhu iron paintings. Nowadays, an increasing number of young people are choosing tourist spots where they can experience intangible cultural heritage (Hay, 1984).

Parents also hope to subtly expose their children to the profoundness of Chinese culture, enhancing the cultural confidence of the Chinese populace. Consequently, they tend to favor tourist destinations themed around intangible cultural heritage (Chiem, 2017). Given this, the holistic development of cultural and tourism resources plays a crucial role in promoting, preserving, and developing intangible cultural heritage. We must also delve deeply into the essence of Wuhu iron painting. While enhancing the quality of iron painting and cultural products, we should emphasize elevating their cultural and economic value. Through the profound integration of Wuhu iron painting and tourism, tourists can be immersed in the iron painting production process, cultivating a strong interest in iron paintings. Ultimately, this can attract more people to participate, addressing challenges like the severe shortage of iron painting artisans and the scarcity of successors (Hay, 2012).

### **3.1.1 Historical Roots and Significance**

The sub-theme "Historical Roots and Significance" in the context of Wuhu Iron Painting focuses on understanding the traditional origins and cultural importance of this unique Chinese art form. Previous studies in similar domains offer valuable insights into how traditional art forms are deeply rooted in their historical and cultural contexts, which can be applied to comprehend Wuhu Iron Painting's evolution and significance (Kraus, 1991). Understanding this evolution is crucial to comprehending the centuries-long adaptations made by ancient arts such as Wuhu Iron Painting. The historical foundation and importance of traditional arts also include their role in maintaining cultural identity. Traditional art forms provide a sense of continuity and belonging by acting as concrete linkages to the past in the face of modernization and globalization. Research on the preservation of cultural heritage highlights the significance of preserving these artistic expressions since they are essential to preserving cultural diversity and legacy. In addition, the artistry entailed in ancient forms of art such as Wuhu Iron Painting is frequently transmitted across successive generations, signifying a legacy of

abilities and wisdom. Not only is the artwork itself significant historically, but the human tales and the community's collective memory connected to it are as well.

A deeper comprehension of the cultural complexity and historical background of Wuhu Iron Painting may be achieved by comparing the results of "Historical Roots and Significance" with those of earlier studies on traditional arts and cultural heritage. Studies on traditional Chinese arts, like the one conducted by Van Capelle et al. (2010) highlight the significance of cultural symbols and historical narratives in artistic forms. Like other ancient handicrafts, Wuhu Iron Painting is a storehouse of historical events and cultural stories. These elements represent the social mores, folklore, and customs of the time the art form was created rather than being just aesthetic decisions. By providing insights into the socio-cultural fabric of the era, an understanding of these narratives allows art to serve as a bridge between the past and the present. According to Wang et al. (2021) the dynamic evolution of traditional arts shows how these forms adjust to changing times by incorporating modern influences while preserving essential traditional components. This element is significant for Wuhu Iron Painting because it implies that the genre has probably adopted new forms or methods over time, demonstrating a continuous cultural conversation between the traditional and the contemporary.

Chen (2018) emphasizes the value of traditional arts in maintaining cultural identity, which is particularly important in light of industrialization and globalization. In this way, Wuhu Iron Painting is more than just a work of art; it's a symbol of culture and the past that preserves continuity and identity. Preserving the art form becomes essential to preserving cultural diversity and legacy. Like other traditional arts, Wuhu Iron Painting's craftsmanship is frequently a legacy that is passed down through the centuries. According to Zhang et al. (2019) comprehending the historical relevance of the art form requires an awareness of this lineage of abilities and knowledge. Not only are the tangible works of art significant, but also the human narratives, abilities, and collective memories that accompany them.

### **3.1.2 Contemporary Influences and Innovations**

In the context of Wuhu Iron Painting, the sub-theme "Contemporary Influences and Innovations" explores how contemporary fashions, scientific developments, and international influences have influenced this age-old Chinese art form in the last few years. Aligning this with findings from previous studies on similar traditional arts highlights the dynamic interplay between tradition and modernity in the realm of cultural expressions (Ma, 2021; Ma & Wang, 2021). Contemporary influences on traditional arts often stem from the rapidly changing societal and technological landscape. As seen in various studies, these influences can significantly transform traditional art forms, introducing new materials, techniques, and thematic expressions. For example, research by Ito (2017) on Japanese traditional arts showed how contemporary artists incorporated modern themes and materials into their work, thus reinvigorating traditional practices with new relevance and appeal. Similar trends are likely observable in Wuhu Iron Painting, where artists might blend traditional ironwork techniques with modern artistic concepts, adapting the art form to contemporary tastes and sensibilities.

Innovations in traditional arts, especially in the context of Wuhu Iron Painting, are not just about adopting new styles but also about exploring new mediums and methods. The integration of digital technology in art, as discussed by Hearn (2008) opens up new avenues for artistic expression. Artists could leverage digital tools for designing, showcasing, or even creating digital renditions of Wuhu Iron Paintings. These technological adaptations align well with the current digital era, making the art more accessible and appealing to a global audience. The global influences on traditional arts, as studied by Singh et al. (2019), also play a critical role. The exposure to diverse cultural ideas and art

forms often inspires traditional artists to experiment with cross-cultural themes, blending elements from different artistic traditions. Wuhu Iron Painting, in this contemporary setting, might exhibit influences from other cultures, manifesting in motifs or styles that represent a fusion of Chinese and global artistic trends. Moreover, the contemporary art market significantly impacts how traditional arts evolve. As noted by Zhang et al. (2022) the demand patterns, collector preferences, and market trends drive artists to innovate and adapt. For Wuhu Iron Painting, this could mean creating pieces that cater to modern art collectors' tastes or even adapting the art for commercial products, thus ensuring its financial sustainability and continued relevance.

### **3.1.3 Economic and Market Impact**

The "Economic and Market Impact" sub-theme in the study of Wuhu Iron Painting addresses the financial implications, market dynamics, and broader economic influence of this traditional art form. To fully appreciate the economic role of Wuhu Iron Painting, it is essential to align this theme with findings from previous studies on the economic aspects of traditional arts (Miller & Miller, 2013). Traditional arts, including Wuhu Iron Painting, often play a significant role in local and regional economies. These pieces of art have an influence much beyond their retail value. They are essential for attracting tourists, creating jobs, and supporting the cultural industry.

This is consistent with the findings of Mervis et al. (1993) which emphasize the important role traditional arts play as economic stimulants, particularly in regions where they are an essential component of cultural identity.

Global economic situations, collector tendencies, and consumer choices all have an impact on the intricate market dynamics surrounding traditional arts. Due to its distinctive cultural richness, Wuhu Iron Painting is expected to have a niche market that appeals to collectors and enthusiasts who recognize its artistic and historical significance (Norris et al., 2022). Studies in this field, such as Miller et al. (2014) show how the market for traditional art forms can be greatly impacted by fluctuations in global economic conditions and evolving patterns in art appraisal. These observations are helpful in comprehending the erratic demand for Wuhu Iron Painting on the market. Moreover, Wuhu Iron Painting's influence on the economy goes beyond its function in cultural tourism. Studies on various traditional arts, including those conducted by Hu et al. (2013) demonstrate how important a draw art form can be for tourists seeking cultural experiences. Due to its exquisite artistry and rich cultural legacy, Wuhu Iron Painting has the potential to draw tourists, which would boost the local economy through travel-related spending. Additionally, the commercialization of traditional arts poses questions about preserving authenticity and cultural integrity in addition to offering chances for economic gain. Research in this field emphasizes the necessity of striking a balance between maintaining the traditional spirit of the art and achieving commercial success (Wang & King, 2016).

## **3.2 New Approaches to the Preservation and Continuation of Wuhu Iron Painting in Tourism Integration**

Royer, (2019) studied substantial role that tourism can play in helping to preserve and revive Wuhu Iron Painting, a traditional form of Chinese art. This subject emphasizes how effective tourism can be as a means of promoting cultural preservation and education in addition to providing economic benefits. Providing tourists with participatory encounters is one of the main tactics for integrating this art form into tourism (Smith, & Fong, 1999). This can entail setting up seminars where guests are educated on the background and methods of Wuhu Iron Painting, touring the workspaces of artists, or showcasing these pieces of art in nearby museums and cultural hubs. Through generating interest and

financial support, such engagements not only improve tourists' comprehension and appreciation of the art but also significantly contribute to its survival. Including Wuhu Iron Painting in tourism packages also has the potential to spread awareness of this distinctive art form throughout the world. Wuhu Iron Painting crosses regional and national boundaries and gains international reputation when it is incorporated into tourism products. Increased demand and appreciation may result from this wider exposure, which will help to further support its preservation. Additionally, the integration of tourism serves as a medium for disseminating cultural knowledge, which enhances the cultural fabric of Wuhu Iron Painting (Sun & Shu, 2020).

### **3.2.1 Tourism as a Transformative Process**

The sub-theme "Tourism as a Transformative Process" explores how tourism has a significant impact on the development and survival of traditional artistic forms such as Wuhu Iron Painting (Tunstall, 2015). This viewpoint acknowledges tourism as a potent tool for cultural advancement, preservation, and teaching—especially when used carefully. Travel offers Wuhu Iron Paintings a special opportunity to present this folk art to a wider audience (Wang, 2016). Visitors can get a deeper knowledge and connection with the art through immersive events such as workshops, exhibitions, and conversations with artists. According to Ponte et al. (2021) immersive cultural experiences, this kind of cultural interchange not only enhance the visitor experience but also promotes a deeper understanding and respect for cultural diversity.

However, the transformative impact of tourism isn't without its challenges. The commercialization of traditional arts for tourism can sometimes lead to a dilution of authenticity or over-simplification for tourist appeal. This concern is echoed in studies that emphasize the importance of maintaining the integrity and authenticity of traditional practices in the face of growing tourist demand (Fong et al., 2003; Zou & Yeo, 2022). It's crucial, therefore, that tourism development related to Wuhu Iron Painting is managed carefully to ensure that it enhances rather than diminishes the art form's cultural value. Furthermore, tourism can contribute to the economic sustainability of Wuhu Iron Painting. As tourists purchase these artworks or related products, they provide a financial boost to the artisans and local communities. This economic aspect, while beneficial, needs to be balanced with cultural sensitivity to ensure that the primary focus remains on preservation and authentic representation of the art form.

### **3.2.2 Immersive Cultural Experiences**

The concept of "Immersive Cultural Experiences" about Wuhu Iron Painting is all about creating engaging, hands-on opportunities for people to connect with this traditional Chinese art form (Xing, 2020). This idea aligns beautifully with what many studies have shown: when people can dive deep into a cultural experience, they come away with a much richer understanding and appreciation of the art and the culture it represents. Imagine, instead of just looking at Wuhu Iron Paintings in a gallery, you could actually participate in a workshop where a skilled artisan teaches you the techniques, or you could walk through an interactive exhibit that tells the story behind each painting (Zhang, 2022). This approach makes the art come alive. Zou et al. (2023) on immersive experiences in tourism really drives this point home – when we engage with a culture in a hands-on way, we form a deeper, more meaningful connection with it. This immersive approach isn't just about enjoying art; it's a learning experience. By getting involved in creating a piece of Wuhu Iron Painting or listening to the stories and history behind it, we gain a much deeper respect for the skill and cultural knowledge that goes into each piece. This kind of learning experience, where you're actively participating, tends to stick with you much longer, just like Zhang et al. (2013) found in their studies on educational tourism.

But there's another side to this – the local impact. When tourists come seeking these authentic experiences, it can help support the local artisans and their communities financially. However, as Fong et al. (2003) pointed out, we have to be careful to keep these experiences genuine and not let them turn into something that's just put on for show. There's also the incredible opportunity these experiences offer for bridging cultural divides. When people from different backgrounds come to learn about Wuhu Iron Painting, they're not just learning about art; they're stepping into a piece of Chinese culture, breaking down barriers and fostering a sense of understanding and respect. The significance of this was brought to light by Dijkzeul et al. (2022) in their study on cross-cultural tourism. In summary, Wuhu Iron Painting offers far more than just standard tourist attractions when it comes to immersive cultural experiences.

### **3.2.3 Fostering Cross-Cultural Understanding**

Every item has a past, a backstory, and a reflection of the society that created it. We open doors for dialogue and understanding amongst people of different cultural backgrounds by introducing them to the art form of Wuhu Iron Painting, it's like travelling to a new country and seeing life from a different cultural standpoint (Zhang & Tieyi, 2020). Research such as this one has demonstrated how travel and cultural interaction can reduce barriers between individuals from around the globe. Through seminars, exhibitions, or interactive experiences, travelers can interact with Wuhu Iron Painting and participate in the culture rather than merely see it. Engaging in this activity is a great way to foster understanding and empathy (Zhou, 2022). It's about understanding the meanings behind the colors and patterns, the historical background that influenced this art style, and the applications of particular symbols. This information creates a bridge across cultures, fostering respect and understanding (Zou & Yeo, 2022).

Furthermore, communication across cultural boundaries is a two-way street. They enhance the local communities in addition to being advantageous for tourists or visitors (Zou & Yeo, 2022). By sharing their history and tales with a global audience, artisans and cultural practitioners can gain respect and acknowledgment for their customs. Communities that have been engaged in these artistic endeavors for many generations may get great encouragement and validation from this interaction. However, promoting intercultural understanding can have practical benefits in addition to generating mutual admiration (Zhang, 2022). These cultural contacts are essential for fostering peace and understanding in a globalized society where miscommunications across cultures can spark war. Visitors can develop a sense of respect and global citizenship by learning about the cultural relevance of a form of art such as Wuhu Iron Painting, which provides insights into broader cultural practices and values (Zhang & Tieyi, 2020).

### **3.3 New Approaches to the Preservation and Continuation of Wuhu Iron Painting in the Digital Age and Innovation**

The main theme "New Approaches to the Preservation and Continuation of Wuhu Iron Painting in the Digital Age and Innovation" reflects a forward-thinking perspective on how technology and innovation can be leveraged to sustain and evolve this traditional Chinese art form in contemporary times (Chen, 2021). In an era where digital technology pervades all aspects of life, its integration into the realm of traditional arts presents both opportunities and challenges for the preservation and continuation of Wuhu Iron Painting. Wuhu Iron Painting may now be created, shared, and promoted in new ways by artists thanks to the advent of the internet age. Through digital channels, artists and enthusiasts can connect with a worldwide audience that was previously unattainable. Social media, internet marketplaces, and digital galleries have created new channels for the promotion and sale of these paintings. This worldwide reach helps with sales as well as increasing appreciation and



understanding of the art form, which attracts a more varied and wide-ranging audience (Fong et al., 2003; Zou & Yeo, 2022).

However, Wuhu Iron Painting does more with digital technologies than only marketing and sales. Technological developments in digital tools and techniques provide up new creative possibilities for artists (Chiem, 2017). Digital painting software offers new possibilities for artistic expression by reproducing traditional techniques or making patterns. This combination of traditional creativity with state-of-the-art technology might yield new artistic interpretations, revitalizing the outdated medium. There are some challenges with this digital integration, though. Maintaining the authenticity and integrity of Wuhu Iron Paintings in digital reproductions is essential. Cultural workers and artists must be aware of the risk that digital simplicity poses to the tactile and intricate qualities of physical art (Chiu, 2019).

### **3.3.1 Digital Technologies in Artistic Expression**

The focus on "Digital Technologies in Artistic Expression" delves into the ways in which contemporary digital tools and platforms are being woven into the creation, distribution, and display of Wuhu Iron Painting. Considering the ubiquitous presence of digital technology and its profound impact on creative processes, this line of investigation is especially relevant and timely (Fong, 1969; Fong, 2003). For artists, the combination of Wuhu Iron Painting and modern technologies gives up new avenues of expression. Virtual reality, 3D modeling, and digital design software are examples of tools that might provide fresh perspectives on how to develop and realize artistic concepts (Guo et al., 2022). For example, an artist could explore complex patterns and colors before starting to paint by sketching concepts for a Wuhu Iron Painting using a graphic tablet. This combination of digital and conventional approaches is not merely practical; rather, it is a new creative language, a hybrid form that honors conventional practices while welcoming modern innovation (Hay, 2012).

Numerous studies have emphasized the importance of this integration (Fong, 1969; Fong, 2003; Hay, 2012; Zou & Yeo, 2022). Hearn's (2008) research on digital art emphasizes how new media can broaden the creative spectrum and provide artists with other means of expressing their ideas. This could imply more complex and detailed designs in Wuhu Iron Paintings, or it could mean whole new forms that combine ancient motifs with contemporary aesthetic sensibilities (Hearn, 2008). But using digital technology for artistic expression goes beyond the mere act of creating. It also includes the exchange and experience of art. Social media platforms, virtual exhibitions, and online galleries can make Wuhu Iron Paintings accessible to viewers who might not otherwise be able to view these pieces. Because it fosters a larger respect and knowledge of the art form's cultural value, its global reach is vital for its preservation and promotion. However, there are several difficulties with incorporating modern technology into Wuhu Iron Painting (Fong, 2003). Making sure the art's digital depiction stays faithful to its original form is one of the fundamental concerns. A genuine Wuhu Iron Painting's tactile feel, intricate ironwork, and rich color depth need to be faithfully reproduced in digital media. As art moves into the digital sphere, this faithfulness is essential to preserving the authenticity and integrity of the medium. Furthermore, copyright and intellectual property concerns are getting bigger as Wuhu Iron Painting goes digital. In this digital transformation, safeguarding artists' rights and maintaining the cultural legacy ingrained in these works of art are crucial factors to take into account.

### **3.3.2 Preservation of Cultural Heritage**

In the context of Wuhu Iron Painting, the sub-theme "Preservation of Cultural Heritage" discusses the importance of preserving this ancient art form as a key component of Chinese cultural

legacy (Ichimiya, & Winter, 2021). This responsibility includes not only maintaining the actual artworks but also the techniques, narratives, and cultural values that are intrinsic to the art. With its fine artistry and rich historical significance, Wuhu Iron Painting is more than just an artistic creation—it's a real connection to China's past (Johnston Laing, 2020). Every item conveys a narrative, be it about the people, myths, or history of the area. Thus, maintaining this art form is like preserving a piece of history that may otherwise be lost in the quickly evolving modern world. Cahill's (1978) work emphasizes the need for preservation, pointing out that traditional arts are the guardians of a society's cultural memory and identity. Wuhu Iron Painting preservation is a complex technique. It entails preserving the abilities and know-how necessary to produce great works of art, which are frequently inherited from previous generations. Not only are the technical components of the art being transferred but also the cultural narratives and significance of each piece are being discussed. The significance of this kind of knowledge transfer in preserving cultural practices in the digital age is highlighted by Norris et al. (2022).

Authenticity preservation in the face of changing times is another aspect of cultural heritage preservation. In the instance of Wuhu Iron Painting, this would entail figuring out how to preserve the ancient craft's core while yet making the artwork relevant and accessible to younger audiences, maybe through the use of contemporary themes or techniques (Norris et al., 2022). It's important to strike a delicate balance between tradition and innovation because any major departure from established practices runs the risk of lessening the cultural value of the art form. It is also impossible to ignore how important technology is to the preservation of cultural heritage. Wuhu Iron Painting may be preserved and documented digitally, opening up access to a larger audience and guaranteeing its continued existence for other generations. Online learning tools, virtual displays, and digital archiving can all be very helpful in this context. There is an economic aspect to Wuhu Iron Painting Preservation as well. Artists can continue to practice and teach by making sure that this art form survives. Its economic viability is essential to the art's long-term preservation.

### **3.3.3 Cultural Continuity in the Digital Era**

In an increasingly digital environment, the sub-theme "Cultural Continuity in the Digital Era" examines the possibility and challenge of preserving the spirit and applicability of traditional practices like Wuhu Iron Painting (Kraus, 1991). This theme is essential to comprehending how traditional cultural expressions can coexist peacefully with digital innovations to ensure their continued relevance and longevity for future generations. Traditional creative forms in the digital age confront the twin challenges of maintaining their inherent cultural values and methods while being relevant and approachable to contemporary audiences. This entails figuring out how to use digital tools and platforms for Wuhu Iron Painting in order to transmit the rich cultural legacy that the artwork embodies in addition to showcasing it (Little, 1996).

Studies by Kosen et al. (2022) provide evidence of the importance that digital technology has had in maintaining traditional arts in contemporary culture. These studies show how digital platforms have the ability to reach a larger audience and introduce people to a great variety of traditional arts from different locations and backgrounds. Digital media must carefully capture the tactile experience of viewing and making Wuhu Iron Paintings, the subtleties of their craftsmanship, and the depth of their cultural context. This necessitates the development of novel techniques that may accurately convey the multisensory and cultural complexity of the artwork in the digital realm. Digital technology also makes it possible to record and archive Wuhu Iron Painting, guaranteeing that the expertise and information connected to this art form are maintained for upcoming generations. This component of cultural continuity is vital because it protects art in the rapidly evolving digital world from the danger of being lost or forgotten.

### 3.4 Exploring the Living Forms of Wuhu Iron Painting

Firstly, efforts should be made to establish an Iron Painting Art Industrial Park themed around Wuhu iron painting, serving as a platform for master artists to create and showcase their work. Such a heritage park acts as a "natural reserve" for the authentic iron painting craft, embodying both the traditional museum's role in inventorying and organizing classic iron artworks, product development, and academic research, and maximizing the promotional, cognitive, and educational roles of Wuhu iron painting (Liu et al., 2023). For instance, in the ancient town of Wuhu Jiuji, an immersive experience feast was crafted for tourists. The town innovatively introduced over 20 interactive parent-child study programs, such as iron painting, Xuan paper, and shadow puppetry, allowing children to learn about the intangible heritage of iron painting while having fun.

Next, establishing an iron painting museum that conducts a comprehensive survey, academic research, and collection of classic iron artworks is essential. Iron painting inheritors can explain the Wuhu iron forging technique and demonstrate it live, thereby enlightening visitors about the art (Ma, 2021).

Lastly, by founding a digital museum for iron painting, we can create iron painting cultural and tourism resources and explore the living forms of iron painting. Modern technological means should be employed to study the inheritance patterns of living culture. Advanced technology can be used to "animate" Wuhu iron paintings. Through such means, the deep integration of Wuhu iron painting with culture and tourism can be facilitated. Leveraging VR technology, a 1:1 scale model of the iron painting factory can be created to display the entire iron forging process, merging traditional crafts with contemporary technology. A VR game designed with U3D software could simulate the rust-proof coating stage of iron painting production Figure 2 allowing tourists to try their hand at forging iron paintings within this virtual environment. This ensures that visitors can genuinely appreciate the aesthetic and artistic qualities of intangible heritage, deeply feeling the beauty, precision, and depth of Wuhu iron painting. The digital iron painting museum can maximize the promotional, cognitive, and educational impacts of Wuhu iron painting, engaging tourists with the culture, stimulating their purchasing desires, and fostering group interaction and scaling effects.



**Figure 2. Iron Painting Production**

### 3.5 Developing Cultural and Creative Iron Painting Products

In the realm of Wuhu Iron Painting, the synergy between culture and the market paves the way for sustainable growth. Embracing modern design methodologies, Wuhu Iron Painting experiences an inherent transformation fueled by innovation. The concept of cultural and creative product development, viewed through the lens of cultural-tourism integration, takes center stage. This approach emphasizes the creation of iron painting products that seamlessly blend practicality with aesthetics. To achieve this, there is a deliberate focus on infusing the cultural essence of intangible heritage iron paintings into specialized tourism products. However, to embrace contemporary influences and stimulate creativity, the scope of iron painting themes has expanded beyond tradition. "Cross-border" integration with various materials has become a key avenue for exploration, allowing for the comprehensive application of multiple mediums.

As an example, let's take a look at the Figure 3 shows a 2016 release of an art collection album titled "Golden Monkey Brings Auspiciousness, National Prosperity, and People's Peace." This remarkable endeavor unfolded during the Year of the Monkey and showcased a truly exceptional fusion of stamps and iron painting.

Figure 3 shows the album featured a set of two images, (a) "Male Monkey Picking Peaches" and (b) "Mother Monkey with Child," showcasing the integration of stamps and iron painting—a successful result of "cross-border" design. This innovative artwork not only encapsulates the essence of the Year of the Monkey zodiac stamp but also demonstrates the artistry of iron painting techniques, elevating the brand value of iron painting art stamps.

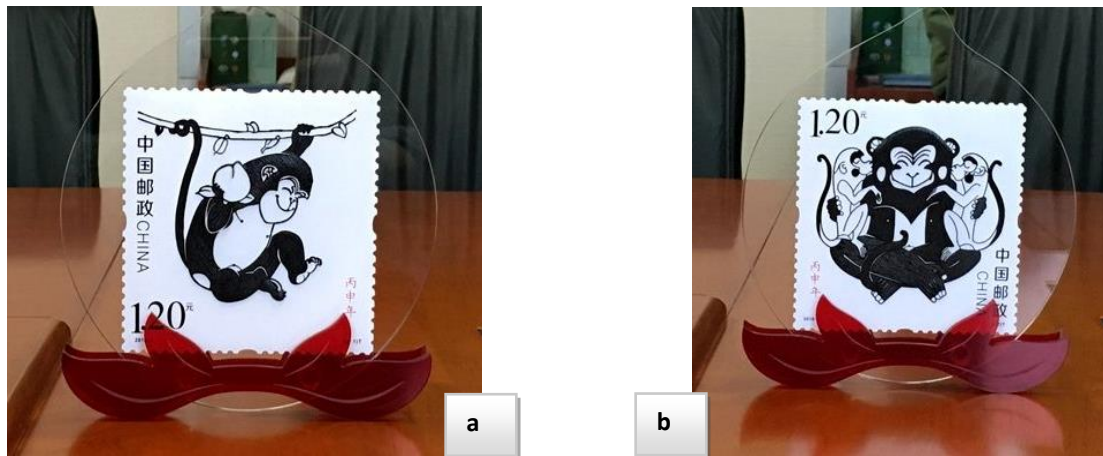


Figure 3. (a) "Male Monkey Picking Peaches" and (b) "Mother Monkey with Child,"

## 4. DISCUSSION

The discussion on the evolution and integration of Wuhu Iron Painting within the realms of cultural integration, tourism, and the digital era, as outlined in the identified themes, brings forth a multifaceted understanding of how this traditional art form is adapting and thriving in contemporary times. This discussion is enriched by expert commentary and insights gleaned from the literature, while also identifying gaps in existing research. The integration of culture and tourism has proven to be a transformative force in the innovative development of Wuhu Iron Painting in the digital age.

Firstly, in terms of cultural integration, studies like those by Ma & Wang (2021) and Guo & Singyabuth (2022) have emphasized the historical roots and contemporary adaptations of Wuhu Iron

Painting. These works highlight how the art form is not only preserved but also continuously evolved, incorporating modern influences while maintaining its traditional essence. However, there seems to be a gap in understanding how these contemporary influences are perceived and received by different demographics, especially younger audiences. Further research could explore how cultural integration impacts the perception and value of Wuhu Iron Painting among various age groups and cultural backgrounds. In the sphere of tourism integration, research by Hu et al. (2013) and Johnston Laing (2020) illustrates the transformative role of tourism in promoting and preserving traditional arts. Tourism offers a platform for immersive cultural experiences, enabling deeper engagement and appreciation. However, there is a noticeable lack of studies that quantify the economic and social impact of integrating Wuhu Iron Painting into tourism. Future research could focus on how this integration affects local economies and communities, and how it contributes to sustainable tourism practices.

Regarding the integration of Wuhu Iron Painting into the digital era, the literature, including works by Hearn (2008) and Norris et al. (2022) points to the significant role of digital technologies in artistic expression and cultural preservation. These studies highlight the potential of digital platforms to extend the reach and relevance of traditional arts. Yet, there is a dearth of research on the long-term effects of digital integration on the artistic quality and cultural authenticity of Wuhu Iron Painting. Further studies could investigate how digitalization impacts the art form's traditional techniques and cultural significance over time. Throughout these themes, a consistent observation emerges: while numerous studies tackle individual elements of cultural integration, tourism, and digital adaptation in isolation, there's a noticeable void in research that comprehensively explores the interconnections among these domains. Most existing research tends to zoom in on one particular facet, leaving an understanding gap regarding the interplay and mutual influence of these various forms of integration. Future studies could benefit from a more holistic approach, exploring how the amalgamation of cultural, tourism, and digital integrations collectively shapes the preservation, development, and public perception of Wuhu Iron Painting.

## **5. CONCLUSION AND RECOMMENDATIONS**

A remarkable fusion of the ancient and the modern is shown by examining the absorption of Wuhu Iron Painting into the domains of culture, tourism, and digital technology. With remarkable adaptation and tenacity, this art, which is firmly ingrained in Chinese culture, is not only persisting but also thriving in the current era. The study emphasizes how important cultural integration is to preserving Wuhu Iron Painting's historical and artistic originality while also accepting contemporary developments and inspirations. This careful balance guarantees that the work of art doesn't deviate from its historical roots while still being interesting and relevant for today's audience. Furthermore, one important aspect that must be look into is the promotion and preservation of Wuhu Iron Painting through tourism. It creates opportunities for cross-cultural understanding and economic sustainability through immersive cultural encounters. Nonetheless, it is clear that further investigation is required to fully understand the quantitative effects of this integration on regional economies and communities. There are advantages and disadvantages to Wuhu Iron Painting's digital age integration. Digital platforms offer new avenues for artistic expression and global exposure, yet the long-term effects on the art form's authenticity and traditional techniques require careful consideration and further study. Overall, while substantial research has been conducted in individual aspects of Wuhu Iron Painting's integration into modern contexts, a holistic understanding of how these aspects interact and influence each other is still developing. Future research should focus on this interconnectedness, providing deeper insights into the multifaceted evolution of traditional arts in the modern world.

Based on the specific findings of this study regarding the integration of culture and tourism in the innovative development of Wuhu Iron Painting in the digital age, several targeted recommendations can be made:

- **Enhanced Digital Integration:** Given the role of digital technologies in promoting Wuhu Iron Painting, it is recommended that artisans and stakeholders further explore and invest in advanced digital platforms. These platforms can provide immersive experiences of the iron painting production process, thus increasing public awareness and appreciation. Collaboration with tech companies and experts in virtual reality (VR) and 5G technology should be considered to ensure a seamless digital experience.
- **Cultural Exchange Programs:** To foster cross-cultural understanding and enrich the local culture, it is advisable to establish cultural exchange programs. These programs should facilitate interactions between Wuhu Iron Painting artists, artisans, collectors, and enthusiasts from different cultural backgrounds. Such exchanges can lead to the creation of innovative, cross-cultural iron painting products that appeal to a broader audience.
- **Artisan Training and Succession Planning:** Training programmes are essential in light of the problem of a lack of iron painting artisans and successors. Traditional iron painting methods should be preserved while embracing contemporary design and artistic features in artisan training. Creating apprenticeship programmes to teach the technique to future generations is crucial to Wuhu Iron Painting's long-term viability.
- **Development of Cultural Tourism Routes:** It is advised to create themed cultural tourism routes revolving around Wuhu Iron Painting in order to fully benefit from the fusion of culture and tourism. Travellers should be able to gain extensive knowledge about the origins, evolution, forging procedure, and artistic features of iron paintings along these itineraries. To provide visitors a hands-on experience and improve their comprehension and appreciation of Wuhu Iron Painting, interactive tours and workshops can be included.

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## Cross-Cultural Communication and Co-Directional Theory: Assessing the Impact of Cultural Background on Communication Efficacy Among International Students in Malaysia

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### ABSTRACT

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The association of intercultural communication (IC) and international students has become increasingly evident in the global expansion of higher education. This study introduces the Cross-Cultural Communication model (CCCM), which explains Cultural Background (CB), Level of Cross-Cultural Adaptation (LCCA), Proficiency in Common Language (PCL), and Communication Efficacy (CE) as distinct stages in intercultural development. Focusing on international students in Malaysia, the research employed a quantitative survey method analyzing data from 215 among multi-cultural students. Our findings show cultural background's has positive and significant impact on cross-cultural adaptation, proficiency in common language, and communication efficacy. There was also a direct and significant impact of a level of cross-cultural adaptation and proficiency in common language on communication efficacy. Moreover, the extent to which individuals adapt to different cultures and their proficiency in a common language mediate the association between cultural background and communication efficacy. The findings reveal a progression from acquiring a cultural background (CB) to developing a level of cross-cultural adaptation (LCCA), enhancing proficiency in common language (PCL), and achieving communication efficacy (CE). These findings lend empirical support to the foundational assertions of the CCCM.

**Keywords:** Cross-Cultural Communication, Co-Directional Theory, Cultural Background, Communication Efficacy, International Students

### 1. INTRODUCTION

The global movement of higher education has had a massive impact on the connections between different fields and has resulted in significant changes on a global scale. These changes have made it easier for many people to learn, creating a knowledge-based economy worldwide, with educational rankings getting growing attention (Wirba, 2021). It is always challenging for international students to quickly merge into newly environment and involve engaging in cross-cultural dialogue. Although such attractions are challenging, their effectiveness is profoundly intertwined with their personal and cultural identities. It significantly determines their overall adaptation and well-being in the host country (Bethel et al., 2020). It has often been realized that it is not easy for international students to adapt a new settings, which causes their academic performance to be compromised (Jackson et al., 2019; Shields, 2019). Therefore, there is a great need to foster feasible educational strategies to enhance cultural integration

to make it easier for new students to adjust to a new cultural setting (Bender et al., 2019; Rivas et al., 2019).

The inquiry of CC offers a variety of perspectives, concepts, and theories to illuminate the various facets of human interaction (Sinicrope et al., 2007). Four necessary factors in CC literature-- Cultural Background, the Level of Cross-Cultural Adaptation, Proficiency in Common Language, and Communication Efficacy ( Jones & Quach, 2007)--are indispensable for all students studying abroad. These dimensions, now brought together under their current terminology and having been introduced in the 1970s (Spitzberg & Changnon, 2009), have usually appeared to overlap conceptually when studied in research terms. Nevertheless, this study differentiates between these concepts because they belong to separate theory lines.

Efforts to define CC began with Hammer et al. (1978), who initially called it “cross-culturality” Later, they changed the definition and called this ability cross-cultural effectiveness and further subdivided its components into sensitivity, skills, and awareness (Bennett, 1986; Chen & Starosta, 2000; Fritz et al., 2005). Based on this model, the Developmental Model of Intercultural Sensitivity (DMIS) was further established. The deepening of understanding proceeds through six stages, progressing from ethnocentrism to ethnorelativism. During this period, various research scholars in the field looked at it from different angles and perspectives using various models and theories (Arasaratnam, 2016; Deardorff, 2006), but they could not come up with a single term for language use. To resolve these contradictions, Deardorff (2006) conducted a Delphi study. The resulting definition of intercultural competence has gained widespread consensus as “the ability to communicate effectively and appropriately.”

It should be noted that evaluating a person’s motivation, attitude, and knowledge of intercultural competence is an ongoing process. When immersed in another culture, giving oneself repeated self-assessments becomes more critical (Deardorff, 2006). It derives from concepts of cultural background and level of cross-cultural assimilation. Meanwhile, Spitzberg and Changnon (2009) distinguished between language-based competence in a common tongue and communication effectiveness. They identified the former as assimilation and change, referring to an individual’s minimum stress or cultural shock without significant alternation of lifestyle during a phase of adapting to another culture; they describe the latter as accommodation. Lewthwaite (1996) argues that effective communication is the prerequisite for successful adaptation. Therefore, we can rightly state that cultural background, cross-cultural adaptation skills, and language proficiency are separate but interrelated entities in a culturally diverse or multicultural environment (Chen & Starosta, 2000; Ting-Toomey & Chung, 2005). The primary objective of this study is to explore the multifaceted nature of intercultural communication (IC) among international students and develop a Comprehensive Model of Intercultural Communication (CMIC). This model aims to explain the journey from cultural understanding to effective cross-cultural engagement, emphasizing the crucial stages of cultural background recognition, cross-cultural adaptation, language proficiency, and communication efficacy.

The Co-Directional Theory, a critical IC theory proposed by Jones & Quach (2007), extend beyond the traditional understanding of communications as mere information exchange. It emphasizes the importance of mutual understanding and strategic integration in communication, particularly in culturally diverse environments. This theory posits that effective communication in intercultural settings involves not just the transmission of messages but also a deep comprehension and appreciation of different cultural perspectives. This approach to communication is co-directional in nature, implying that all parties in the communication process actively contribute to and shape the interaction. Furthermore, the Co-Directional Theory has been validated across various environments, proving its

applicability and relevance in multiple cultural contexts. It has been particularly effective in exploring and explaining crucial IC concepts such as the role of cultural background in shaping communication patterns and the achievement of communication efficiency in diverse settings. (Ting-Toomey & Dorjee, 2018). In response to the limitations observed in IC research, scholars have increasingly turned to bi-cultural and multicultural frameworks to ensure broader applicability of their findings (Arasaratnam, 2007; Ting-Toomey & Chung, 2005). This study integrates the multicultural perspective with the principles of the Co-Directional Theory, offering a unique approach to examining IC among international students.

By integrating the Co-Directional Theory, this research underscores the practical and adaptable aspects of mastering IC, especially for international students who must navigate multiple cultural contexts. The novelty of this study lies in its holistic approach to intercultural communication, integrating the Co-Directional Theory with Cultural Adaptation theory. Previous studies usually focus on developing these competencies, while after-achievement progression is less analyzed. This study provides a Comprehensive Model of IC (CMIC), containing the fundamental principles arising from Co-Directional Theory and key stages conforming to Cultural Adaptation theory. The model flows from understanding one's cultural background to cross-cultural adaptation, capability in common language, and communication efficacy. This approach will provide new insights into the dynamic cultural adaptation process and communication effectiveness among international students.

## **2.LITERATURE REVIEW**

The Co-Directional Theory is a seminal theoretical framework that plays a crucial role in the study of intercultural communication. In the study conducted by Ting-Toomey & Chung (2005), a theory was developed that offers a distinctive perspective on the interaction between cultural background, cross-cultural adaptation, language proficiency, and communication efficacy. It emphasizes that effective intercultural communication is not just about the exchange of information but involves a dynamic, two-way process of mutual understanding and strategic integration of diverse cultural perspectives. This theory is particularly relevant in dissecting how these factors collectively influence the communication experiences of international students in multicultural environments like Malaysia. The following subsections delve into each of these key concepts, examining them through the insightful perspectives offered by the Co-Directional Theory. The literature review is organized into four distinct subsections, each focusing on one of the key concepts, such as cultural background (CB), level of cross-cultural adaptation (LCCA), proficiency in common language (PCL), and communication efficacy (CE). This arrangement allows for a comprehensive analysis and comparison of these ideas.

### **2.1 Cultural Background (CB)**

Talking between people from different cultures or ethnic groups is mainly about how they interact with each other despite their differences (Arasaratnam & Doerfel, 2005). Cultural background is good when confusion decreases and talking works well (Gudykunst & Nishida, 2001). (Neuliep, 2012) defines cultural background as the shared comprehension of the sender's intended message by the recipient. The co-directional theory provides a prominent and orderly study of cultural background (Duong, 2024b). This idea is explained straightforwardly using surface reasons, leading causes, and balance processes, helping to understand cultural background (Smith & Khawaja, 2011). Simple reasons include wanting to talk and first feelings while leading causes deal with worry and uncertainty. Mindfulness is stressed as a significant control process for getting a cultural background. These things help people deal with worry and uncertainty in different cultures ( Ting-Toomey & Chung, 2005; Neuliep, 2017).

Cultural Background (CB), as defined by Zhang et al. (2024), forms the foundation of our understanding in intercultural communication. It shapes the initial interactions and perceptions between individuals from different cultures. The Co-Directional Theory, as proposed by Duong (2024a), further illuminates this by emphasizing the interaction of surface reasons, underlying causes, and balancing processes in CB. This theory suggests that effective CB, characterized by reduced confusion and improved interaction (Wang et al., 2022), facilitates a smoother transition to LCCA. When individuals have a well-developed CB, they are better equipped to adapt to new cultural settings, as they can effectively navigate the complexities of intercultural interactions. Furthermore, proficiency in a common language (PCL) is inherently tied to CB. As individuals become more culturally aware, they can more effectively learn and use a common language, thereby enhancing their ability to communicate across cultural boundaries. This relationship is supported by studies that show a correlation between cultural understanding and language proficiency (Lashari et al., 2023). Finally, communication efficacy (CE) is the culmination of this process. Susila and Risvan (2022) describe CE as encompassing effective communication, stress management, and the ability to form cross-cultural friendships. As CB and LCCA improve, along with PCL, individuals are more likely to achieve CE. This is because they are better equipped to understand and be understood by others, manage the stresses of cross-cultural interactions, and form meaningful connections across cultural divides. Therefore, we hypothesize that,

**Hypothesis 1:** There is a positive relationship between cultural background and level of cross-cultural adaptation.

**Hypothesis 2:** There is a positive relationship between cultural background and proficiency in common language.

**Hypothesis 3:** There is a positive relationship between cultural background and communication efficacy.

## 2.2 Level of Cross-Cultural Adaptation (LCCA)

LCCA, as explained by Chio et al. (2021), is the essential knowledge and motivation to interact with people from different cultures correctly. This idea has always been an essential component of ongoing dialogue. Giacomella (2021) explain that LCCA means excellent and proper management of relationships between people from different cultures. However, there was much confusion in early LCCA research. LCCA is considered to have multiple appearances, is a theoretical way of thinking, and can be changed for different reasons (Ting-Toomey & Chung, 2005). In the past, LCCA was considered a mixture of words and things. It includes caring for others, performing well in respected assigned roles, being friendly to others (not just to our own culture), and controlling how we talk to each other (Kim, 2017). Schauer (2020) proposed a five-factor LCCA model, including skills, knowledge, and attitudes. This is very important for helping students to have a long-term, in-depth understanding or appreciation of foreign cultures. Teachers believe LCCA combines thinking, feeling, and action (Arsenovic et al., 2021).

People have looked at the theory behind LCCA in different ways. Understanding different cultures is very important. Models like MIS proposed by Luo et al., (2021) are a big part of this concept. These models show steps moving away from a focus on one's group to understanding different groups. It shows how lower levels shift towards higher ones in developing LCCA. Research goes on to find out what causes LCCA. It looks at factors such as being friendly, knowing about the host culture, and having a good mood (Gong et al., 2021). The cultural universal approach (Barrett, 2020) advocated and the comprehensive LCCA model of IMLCCA help to understand the predictive factors of LCCA in cross-

cultural environments in various attempts. Although LCCA has been extensively studied as a structural, theoretical method, or outcome variable, its progress still needs further investigation. The subsequent state of CE is where an individual is satisfied and flexible with the new cultural environment. Therefore, we hypothesize that,

**Hypothesis 4:** There is a positive relationship between Level of Cross-Cultural Adaptation and communication efficacy

### **2.3 Proficiency in Common Language (PCL)**

Common Language Skill (CLS) is usually seen as feeling mentally happy and content in foreign cultural places (Fennig & Denov, 2021). According to Pérez-Almendros et al. (2020), PCL involves modifying behaviors or thoughts to adapt to a new environment and achieve specific objectives effectively. This subject holds significance in academic discourse concerning intercultural communication in educational and professional settings involving individuals from diverse cultural backgrounds (Baldwin et al., 2023). General adjustments involve basic living needs such as food, healthy weather, and family, while interactive changes involve the difficulty of social interaction among host group members (Jarrott et al., 2022; Timmis & Ramos, 2021). For students from other countries, they need to pay attention to these two changes in order to understand their PCL. The main theoretical idea is the PCL U-shaped model Chio et al. (2021) proposed. It lists seven steps for better transformation from the first step to the new cultural venue.

The co-directional theory also discussed PCL. It explains how people adapt to new cultures (Djelantik et al., 2021). Nakanishi et al. (2021) discusses how people can change culture. This focuses on things like solitude and collaboration and puts them on all other topics it discusses. This small idea also supports the development of plans to help integrate quickly and smoothly into the host country's culture. Research has shown that the duration of someone's residence in a particular place and their language knowledge can greatly influence cultural change (Lou & Noels, 2020). Although there are many articles about PCL, we do not have any suggestions on how it affects the subsequent steps of adapting to different cultures. Unlike cultural background (CB) and cross-cultural adaptation (LCCA), PCL combines general and conversational changes. This means that adapting to different cultures does not always mean accepting it. From this understanding, it can be understood that communication effectiveness (CE) may have emerged after PCL. Therefore, we hypothesize that

**Hypothesis 5:** There is a positive relationship between proficiency of common language and communication efficacy.

### **2.4 Mediating effect of level of cross-communication and proficiency in common language.**

In intercultural communication research, understanding the dynamics of cultural interaction is crucial. Cultural Background (CB) is fundamental, as it shapes initial perceptions and interactions in a new cultural environment. Studies by (Yuvaraj et al., 2021) and Suh et al. (2020) suggest that a well-developed CB reduces confusion and enhances interaction quality, leading to effective communication. Building on this, the Level of Cross-Cultural Adaptation (LCCA) and Proficiency in Common Language (PCL) emerge as key mediators in this process. LCCA, as discussed by Huang et al. (2021), involves cognitive, behavioral, and affective adjustments, playing a crucial role in adapting to new cultural settings. This adaptation is pivotal in transforming CB into effective communication practices. Similarly, PCL is essential for bridging cultural gaps. Effective communication in a shared language, as shown by Rustamov and Mamaziyayev (2022), enhances intercultural interactions, facilitating better

understanding and reducing misunderstandings. Ultimately, Communication Efficacy (CE) is the goal, where individuals achieve successful communication in diverse cultural settings. The Co-Directional Theory, integrating these elements, suggests a dynamic IC process through various stages of cultural adaptation. This theory proposes that effective IC involves a sequential progression from CB to CE, mediated by LCCA and PCL, aligning with the theory’s emphasis on mutual understanding and strategic integration in diverse environments. Therefore, we hypothesize that,

**Hypothesis 6:** The level of cross-cultural adaptation mediates the relationship between cultural background and communication efficacy.

**Hypothesis 7:** Proficiency in common language mediate a relationship between cultural background and communication efficacy.

Based on the literature review and proposed hypotheses we have drawn research framework which is shown in figure 1 below.

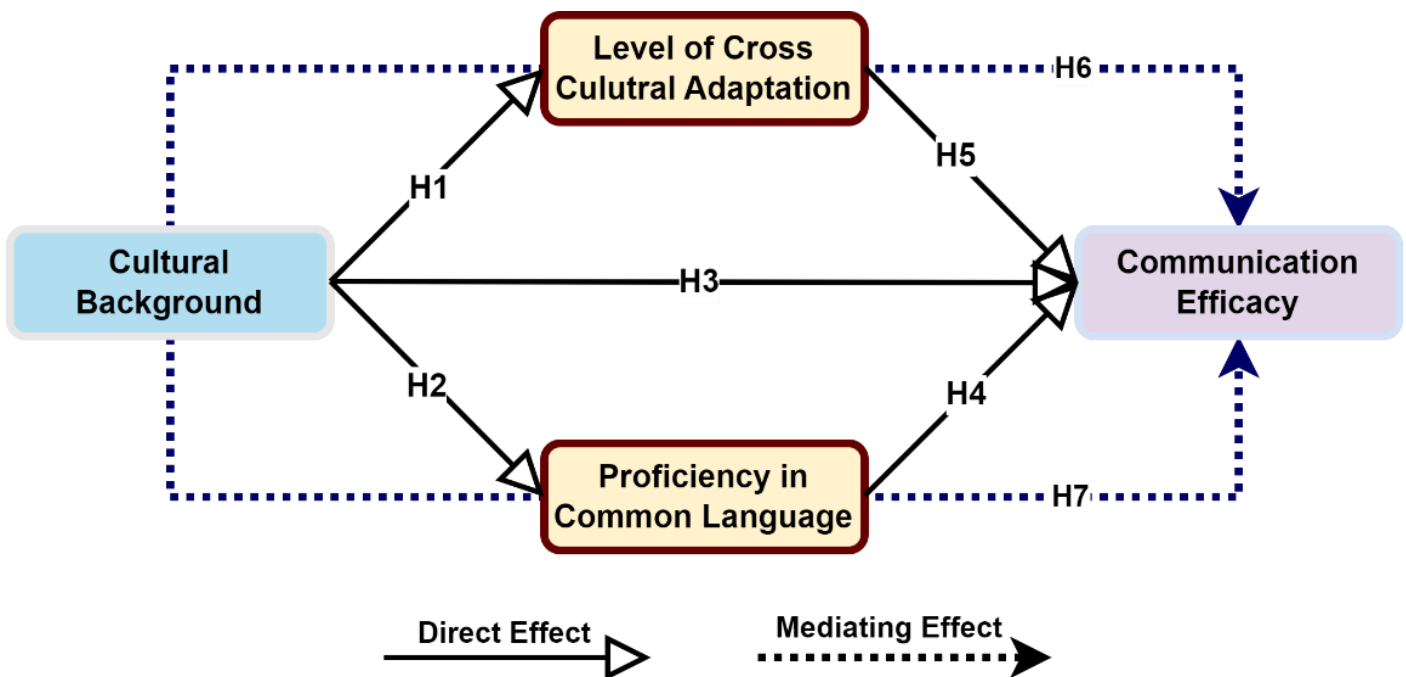


Figure 1: Research Framework

### **3. METHODOLOGY**

#### **3.1 Research sites**

This research centers on an in-depth examination of the Cross-Cultural Communication model (CCCM), particularly its effectiveness in the context of international students in the multicultural milieu of Kuala Lumpur, Malaysia. Unlike conventional studies that often limit their scope to a single educational institution, this investigation expands its horizon to encompass multiple prestigious universities in Kuala Lumpur, such as the University of Malaya, UCSI University, University of Kuala Lumpur, and International Islamic University of Malaysia. This broader approach enriches our data with a diverse range of cultural perspectives, reflecting the city's vibrant international student population. Kuala Lumpur's unique cultural tapestry, woven with varied traditions and lifestyles from across the globe, presents an ideal setting for exploring the nuances of cross-cultural communication among international students. The city's academic environment, teeming with students from numerous backgrounds, offers a living laboratory for observing and analyzing the practical applications and challenges of CCCM.

#### **3.2 Data Collection**

To garner a representative and comprehensive dataset, we adopted a convenience sampling method, targeting international students from the selected universities. Our methodology involved active engagement with the student community, including visits to campuses and leveraging social media groups dedicated to international students. These efforts were aimed at encouraging a broad spectrum of students to participate and share their experiences, thus providing a rich and detailed understanding of the CCCM's efficacy in a real-world, culturally diverse academic setting."

#### **3.3 Sampling and Ethical Considerations**

International students were exclusively considered for gathering the required sample size for the current study. In place of the sample-to-variable ratio method previously used, this study employed the GPower statistical analysis tool to determine an adequate sample size. Using GPower, with a small effect size ( $f^2 = 0.15$ ), an alpha level of 0.05, and a power of 0.80, the analysis suggested a target sample size. Considering our model, the required sample size was determined to be approximately 98 international students. This size ensures sufficient power for the statistical tests planned in the study. To get enough students involved, around 400 questionnaires were distributed among international students to universities in Kuala Lumpur. The questionnaire was distributed online through the circle of friends and research groups. Finally, we collected around 250 filled questionnaires, which is more than a response rate of over half. After checking for incomplete or missing details, 215 sample size were chosen for the statistical analysis. Furthermore, ethical considerations were paramount. Participants were provided with a consent form at the survey's outset, ensuring they were informed of their right to withdraw at any time and affirming the confidentiality of their responses. This approach respected participant autonomy and safeguarded their personal information.

#### **3.4 Instruments**

The questionnaire, primarily administered in English, was segmented into three essential parts. The first part included the title of the survey, comprehensive instructions for respondents, and a mandatory consent form to ensure ethical compliance. The subsequent part featured a series of descriptive queries, initiating with a question about the respondent's nationality, followed by a section



to provide their response. This was succeeded by questions determining the respondent's gender (options being male or female), academic status (either undergraduate or postgraduate), and their experience with cross-cultural interactions, answerable with a straightforward yes or no. Additionally, respondents were required to select their age bracket from the provided options.

The third section was critical, including questions about the study's specific variables. Responses were measured on a five-point Likert scale for each item related to the variables Cultural Background (CB), Level of Cross-Cultural Adaptation (LCCA), Proficiency in Common Language (PCL), and Communication Efficacy (CE). The study used established scales from intercultural communication literature for these variables, known for their high reliability. These scales were chosen over others because of recommendations from intercultural communication experts and their relevance to the variables in this study. A detailed list of the number of items for each variable and their sources is presented in Table 1.

**Table 1. Variables**

<b>Variable</b>	<b>Number of Items</b>	<b>Source</b>
Cultural Background (CB)	10	Johnson and Lenartowicz (1998), and Mushquash and Bova (2007)
Level of Cross-Cultural Adaptation (LCCA)	8	Ward and Kennedy (1999), and Epstein et al. (2015)
Proficiency in Common Language (PCL)	7	Brislin (1970), and Kaushanskaya et al. (2020)
Communication Efficacy (CE)	9	Gaffney (2011)

### 3.5 Data analysis technique

Data analysis was conducted using the Statistical Package for Social Sciences (SPSS) for descriptive statistics and preliminary analysis, including calculating means, standard deviations, and frequency distributions. For more complex analyses, Analysis of Moment Structures (AMOS) was employed, especially for structural equation modeling (SEM) to explore the relationships between Cultural Background (CB), Level of Cross-Cultural Adaptation (LCCA), Proficiency in Common Language (PCL), and Communication Efficacy (CE). The combination of SPSS and AMOS allowed for a comprehensive and robust analysis of the data, leveraging SPSS's capabilities for basic analysis and AMOS's strength in modeling complex variable relationships.

## 4. RESULTS AND DISCUSSION

### 4.1 Participants

Findings in the Table 2 indicated that about (N=215) international students from the diverse cultural backgrounds participated in this study. The international student from the top contributing countries are from China (N=50, 23.3%), Indonesia (N=40, 18.6%), India (N=35, 16.4%), Bangladesh (N=25, 11.6%) and Pakistan (N=20, 9.3%). The gender distribution was balanced, with 51.2% male and 48.8% female. Of these students, 130 enrolled in undergraduate programs, while 85 pursued

postgraduate degrees. A significant 74.4% had previous intercultural experiences before their education in Malaysia. Regarding age groups, 32.6% were between 18–22 years, 39.5% were 23–27 years old, 18.6% were 28–32 years old, and 9.3% were 33 years or older.

**Table 2. Study Demographic**

Category	Demographics	Frequency	Percentage
<b>Gender</b>	Male	110	51.2
	Female	105	48.8
<b>Age Group</b>	18-22	70	32.6
	23-27	85	39.5
	28-32	40	18.6
	33 and above	20	9.3
<b>Country of Origin</b>	China	50	23.3
	Indonesia	40	18.6
	India	35	16.3
	Bangladesh	25	11.6
	Pakistan	20	9.3
	Nigeria	15	7.0
	Yemen	10	4.7
	Vietnam	10	4.7
	Others	10	4.7
<b>Education Level</b>	Undergraduate	130	60.5
	Postgraduate	85	39.5
<b>Intercultural Experience</b>	Yes	160	74.4
	No	55	25.6
	No	55	25.6

#### 4.2 Normality and Multicollinearity

Table 3 presents normality and multicollinearity assessments for four variables and we have used skewness and kurtosis as common tests to check if the variables are normal and reliable. Table 3 showed a little tilt or bias of the data. But we need to remember that most of the variable's scores were within an accepted range from +2 down to -2, as Heckman et al. (1998) suggested. This range usually shows a normal distribution, which means our data for this study is likely to follow the idea of being normal.

**Table 3. Normality and multicollinearity**

<b>Variable</b>	<b>N</b>	<b>Std. Error</b>	<b>Kurtosis</b>	<b>Skewness</b>	<b>Tolerance</b>	<b>(VIF)</b>
Cultural Background (CB)	215	0.16	-0.24	0.12	0.71	1.41
Level of Cross-Cultural Adaptation (LCCA)	215	0.15	-0.30	0.14	0.69	1.45
Proficiency in Common Language (PCL)	215	0.17	-0.15	0.19	0.72	1.39
Communication Efficacy (CE)	215	0.16	-0.20	0.08	0.74	1.35

CB (Cultural Background), LCCA (Level of Adaptation to Cultural Differences), PCL (Proficiency in Common Language) and CE (communication efficacy) Beginning with Cultural Background (CB), it has a typical mistake of around 0.16. The kurtosis value is about -0.24 showing that the range and shape in CB scores are slightly tighter than what could be expected from an ideal or normal spread pattern. The tilt is about 0.12, with an average mistake of 0.17 which means there's a little bit more on the right side or positive skewness in the distribution where some outliers might show up even though it isn't too strong overall. Next, we look at Level of Cross-Cultural Adaptation (LCCA). This method has a standard error around 0.15. The kurtosis number is about -0.30, with a mistake of 0.33 which shows nearly the same shape but less bumpy and lighter sides in its distribution model. LCCA's skewness is about 0.14 with a small amount of error, or in other words it has slightly more big numbers than little ones. For being good at everyday language (PCL), it shows a usual difference of about 0.17. The kurtosis number is around -0.15, with an error of 0.33 normally happening when it's close to normal and just a small difference in how the distribution is shaped up. The sideways tilt is about 0.19, with a mistake measure of 0.17 showing slight upward skewness like other factors did too. In the end, Effective Communication (CE) has a common mistake of about 0.16 or so. The kurtosis is about -0.20, with a standard error of 33%. This means that the distribution isn't as tall and has thinner ends compared to others. The CE measure is about 0.08, with an error of around 17% going in either direction showing close to equal distribution levels.

**Table 4. Factor Loading**

<b>Item</b>	<b>Statement</b>	<b>Factor Loading</b>
<b>Cultural Background (CB)</b> (Cronbach's Alpha = 0.91; AVE = 0.67)		
1	I grasp cultural references from various countries with ease.	0.81
2	I am aware of various international cultural norms.	0.79
3	I value the cultural diversity around me.	0.80
4	Identifying shared cultural norms in diverse groups is a strength of mine.	0.77
5	My cultural insights aid in my understanding of others.	0.82

<b>Item</b>	<b>Statement</b>	<b>Factor Loading</b>
6	I actively explore different cultural practices.	0.78
7	Discussing cultural variances is something I am comfortable with.	0.76
8	I do not let cultural differences impede my communication.	0.75
9	Interacting with people from varied cultural backgrounds is enjoyable to me.	0.79
10	Embracing cultural diversity in all settings is important to me.	0.74
<b>Level of Cross-Cultural Adaptation (LCCA)</b>		
(Cronbach's Alpha = 0.89; AVE = 0.65)		
1	Adapting to new cultural settings is quick for me.	0.83
2	I am comfortable engaging with individuals from diverse cultures.	0.80
3	Navigating through cultural misunderstandings is a skill I possess.	0.82
4	I modify my behavior to suit different cultural contexts.	0.78
5	Cultural variances in communication are something I respect and understand.	0.81
6	I find myself at ease in various cultural environments.	0.77
7	Making friends across different cultures comes naturally to me.	0.79
8	I am confident about adapting to diverse cultural norms.	0.76
<b>Proficiency in Common Language (PCL)</b>		
(Cronbach's Alpha = 0.90; AVE = 0.68)		
1	Communicating fluently in the prevalent language here is something I can do.	0.82
2	I comprehend both verbal and non-verbal aspects of the common language.	0.80
3	Expressing myself clearly in the common language is within my capability.	0.81
4	I am comfortable in conversations using the common language.	0.78
5	Understanding various accents in the common language is a skill I have.	0.77
6	Complex conversations in the common language are something I can follow.	0.79
7	I can participate effectively in discussions using the common language.	0.76
<b>Communication Efficacy (CE)</b>		
(Cronbach's Alpha = 0.88; AVE = 0.66)		
1	Conveying my thoughts effectively in intercultural settings is something I excel at.	0.84
2	I can modify my way of communication to suit various cultural scenarios.	0.81
3	My skills in intercultural communication across different cultures are strong.	0.83
4	Interpreting messages from culturally diverse individuals is easy for me.	0.78
5	Resolving intercultural communication misunderstandings is a skill I possess.	0.80
6	I use non-verbal cues effectively in intercultural interactions.	0.77
7	Recognizing and respecting different cultural communication styles is something I do well.	0.79
8	I am adept at communicating with people who have varied styles of communication.	0.76
9	Engaging in dialogue across cultures is an area where I am confident.	0.82

The full statements for every item and their loadings are shown in Table 4, which also verifies that every item loaded factor is higher than the CFA minimum value (>0.50). Furthermore, we evaluated reliability and validity using established indicators from scholarly literature. Reliability was assessed through Cronbach's Alpha ( $\alpha > 0.70$ ) for all variables, ensuring measurement consistency. The Cronbach's Alpha values for each variable showed very good to excellent reliability: Cultural Background (CB) = 0.88, Level of Cross-Cultural Adaptation (LCCA) = 0.92, Proficiency in Common

Language (PCL) = 0.91, and Communication Efficacy (CE) = 0.90. The reliability and validity of the variables in this study were thoroughly assessed, as reflected in Table 4. The results showed that Composite Reliability (CR), Average Variance Extracted (AVE), and discriminant validity values for each variable exceeded the minimum criteria (CR > 0.70, AVE > 0.50, discriminant validity > 0.70).

Table 5's hetero-trait mono-trait (HTMT) ratios fell below the thresholds of 0.85 and 0.90, in line with Henseler et al. (2015), affirming discriminant validity.

**Table 5. Hetero-trait mono-trait (HTMT)**

Variable	1	2	3	4
Cultural Background (CB)				
Level of Cross-Cultural Adaptation (LCCA)	0.298			
Proficiency in Common Language (PCL)	0.357	0.473		
Communication Efficacy (CE)	0.402	0.452	0.395	

### 4.3 Hypothesis Testing

Table 6 shows the hypothesis testing analysis results indicated a significant direct effect of Cultural Background (CB) on the Level of Cross-Cultural Adaptation (LCCA) ( $\beta = 0.281$ ,  $t = 4.39$ ,  $p < 0.05$ ) and Proficiency in Common Language (PCL) ( $\beta = 0.229$ ,  $t = 3.42$ ,  $p < 0.05$ ). Furthermore, LCCA was found to have a significant direct effect on Communication Efficacy (CE) ( $\beta = 0.333$ ,  $t = 3.92$ ,  $p < 0.05$ ), as well as on PCL ( $\beta = 0.408$ ,  $t = 5.59$ ,  $p < 0.05$ ). Lastly, PCL significantly influenced CE ( $\beta = 0.180$ ,  $t = 2.22$ ,  $p < 0.05$ ).

**Table 6. Direct effects**

		B	SE.	t-value	p-value	Status
H1:	CB LCCA	0.281	0.064	4.39	0.000	Accepted
H2:	CB- PCL	0.229	0.067	3.42	0.000	Accepted
H3:	CB – CE	0.251	0.071	3.53	0.000	Accepted
H4:	LCCA – CE	0.333	0.085	3.92	0.000	Accepted
H5:	PCL - CE	0.180	0.081	2.22	0.001	Accepted

### 4.4 Mediating Analysis

In our analysis, the investigation of mediation effects was guided by the framework set forth by Zhao et al. (2010). The indirect effects of the independent variable on the dependent variable through the mediators were assessed using this approach. Table 7 shows secondary sub-model uncovered a

notable indirect influence of Cultural Background (CB) on Communication Efficacy (CE) was detected ( $\beta = 0.113$ ,  $p < 0.05$ ), with the confidence interval bounds firmly placed between 0.042 and 0.215, establishing Level of Cross-Cultural Adaptation (LCCA) as a significant mediator. In addition, Proficiency in Common Language (PCL) was identified as a mediating variable, with a substantial indirect effect ( $\beta = 0.102$ ,  $p < 0.05$ ) of CB on CE, where the confidence interval did not contain zero, ranging from 0.038 to 0.205. Consequently, all the mediating constructs posited within this research were validated as statistically significant.

**Table 7. Mediating Effects**

Path	Total Effects	Direct Effects	Indirect Effects	Status
H6: CB → LCCA → CE	0.396**	0.286**	0.113**	Mediation
H7: CB → PCL → CE	0.397**	0.298**	0.101**	Mediation

## 5. DISCUSSION

In the study, empirical evidence supported each of the posited hypotheses, illustrating a direct causative chain in line with the Co-Directional Theory. The theory's principles were reflected in the findings, showing how a student's cultural background influences their adaptation skills, language mastery, and ultimately, communication efficacy. This progression from cultural background to communication efficacy through levels of cross-cultural adaptation and language proficiency underscores the interconnected nature of these factors in the Co-Directional Theory's framework. The study's findings align with previous research suggesting the significant influence of cultural background on an individual's adaptation process and language proficiency in a new cultural setting, subsequently affecting their communication efficacy. For instance, the direct effect of cultural background on cross-cultural adaptation and language proficiency echoes Kim et al. (2001) emphasis on the impact of cultural factors in adaptation processes. Furthermore, the mediating role of adaptation skills and language proficiency in the relationship between cultural background and communication efficacy is notable. This mediation supports the idea that adaptation and language skills are essential for effective intercultural communication, a concept highlighted in Jackson (2019) work. Overall, the research enriches the field of intercultural communication by empirically validating the complex interplay of these factors and their collective impact on communication efficacy. The findings offer valuable insights into the dynamics of intercultural communication, guided by the principles of the Co-Directional Theory. This theory provides a comprehensive understanding of the progressive and interconnected process of cultural adaptation and effective communication, emphasizing the critical role of mutual understanding and strategic integration in diverse cultural interactions.

## 6. CONCLUSION AND RECOMMENDATIONS

This study revealed the main parts of communication between international students from different cultures. These are things like cultural history, how well people can live in another culture, knowing a common language and being good at talking with others effectively. It also made a special plan for students from other countries to help them understand this kind of talk. In the model of Cross-Cultural Communication, we believe that going from good communication skills to fitting into a different culture involves many growth phases for people. Considering these phases, this study revealed

key aspects of intercultural communication, emphasizing the roles of cultural background, adaptation to new cultures, language proficiency, and effective communication. The Cross-Cultural Communication Model (CCCM) developed here illustrates a progressive journey for international students, from understanding different cultures (CB) to adapting (LCCA), enhancing language skills (PCL), and achieving effective communication (CE) in their new environment. This model integrates various intercultural communication (IC) theories, providing a comprehensive pathway through multicultural experiences. Particularly notable is the application of the CCCM in Malaysia, involving students from diverse backgrounds, including Pakistani students, revealing unique insights into their cultural adaptation process. The CCCM's effectiveness in Malaysian settings encourages its broader application in diverse intercultural contexts. Future implementations of the CCCM, particularly in multicultural educational settings, could benefit from the involvement of experts from varied cultural backgrounds, enhancing its relevance and applicability.

## 7. RESEARCH LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Although current studies offer a novel contribution, research limitations need to be surfaced to avoid any discrepancy between the findings. The scope of this study, primarily focused on a specific demographic in Kuala Lumpur, Malaysia, might not fully encapsulate the varied experiences of international students in different global contexts. Such a geographical limitation suggests caution when generalizing the findings to other settings. Future research could expand to include diverse cultural and geographical contexts, allowing for a more comprehensive understanding of the CCCM's applicability across different international student populations. Furthermore, the sample size, while providing robust findings in line with Neuliep (2012), might limit the depth of insights into the complex nuances of intercultural communication. Expanding the sample size and including participants from various cities or countries could provide a richer, more varied set of data. Future studies should also consider longitudinal approaches to better capture the evolving nature of cultural adaptation and communication efficacy over time. The current study's reliance on self-reported data could introduce bias, suggesting the need for mixed-method approaches in future research that combine quantitative surveys with qualitative interviews or observational studies. This would enable a more nuanced understanding of the CCCM and its components in real-world scenarios.

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**Ethical Statement:** Permission was taken from the host department before collecting the data, also informed consent was taken from all the participants for the collection and use of the data. The participants were told they can withdraw from the study at any stage of the interview. We also assured the anonymity of all the respondents who participated in this study.

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## Promoting Early Childhood Learning Education: A Systematic Review of Structural Quality of Preschool Education in China

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### Article Information

### ABSTRACT

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The study aims to investigate the evolution of preschool education policy in China, which plays a vital role in early childhood development. It required the government's intensified focus since 2010 on enhancing both access and quality standards of preschool education, which illuminated through the lens of historical policy shifts and their implementation. This study is grounded in the PRISMA guidelines and involved a thorough literature search, selection based on stringent criteria, and a robust data extraction and coding process. The analysis reveals that the Chinese government increasingly perceives preschool education as a fundamental public service, which has been established in revised policies and targeted endeavors to bridge the urban-rural areas of China. The study concluded that persisting challenges, notably in the equitable distribution of resources, enrollment inequalities, and optimal teacher-to-child ratios, especially in rural areas. Despite these challenges, the significant strides made, and the policy impetus reflect the prioritization of preschool education within China's national agenda. The review encapsulates the complexities of policy evolution, its tangible successes, and the pathways for achieving universal and high-quality preschool education.

**Keywords:** Early Childhood Learning, Preschool Education, Policy Analysis, Educational Accessibility, Quality Standard, Urban-Rural Inequality

## 1. INTRODUCTION

The role of early childhood education (ECE) has gained considerable importance in recent empirical studies, highlighting the early children's education in life, which has a significant impact on an individual's cognitive, social, and overall development along his/ her educational career (Akbari & McCuaig, 2014; Nawarat et al., 2022). The preschool education system in China is an exciting area to discuss how fast it is growing and transforming as the combination of traditional and modern educational principles is concerned (Başaran et al., 2021).

Studies suggested that China has witnessed remarkable improvement in preschool enrollment and the government's investment in ECE as part of Qin Yi Conference Zheng Guan's national strategy for improvement in education to meet social needs (Jiang et al., 2022; Li & Rosewell, 2020). Chinese early childhood education policy is vital in considering childhood learning as the foundation for cognitive, emotional, and social development (Zhang et al., 2015). Alongside the enhancement of preschool education in China, the growth has also presented essential challenges such as urban-rural inequity, syllabuses capacity, and professional development (Zhao & Wang, 2019; Central Committee

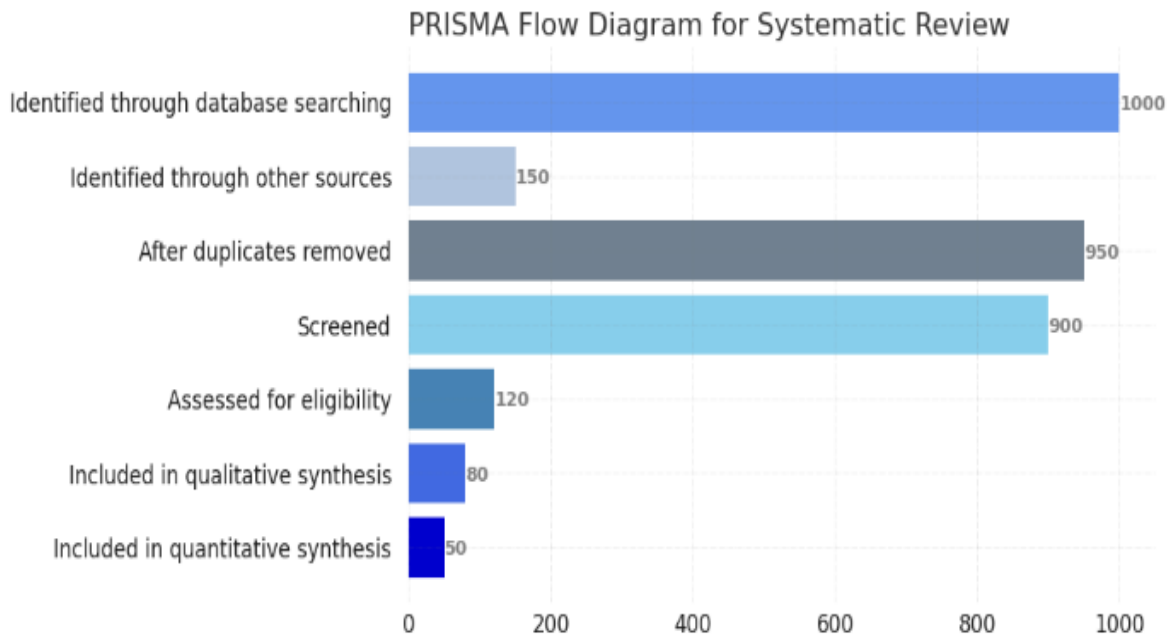
of the Communist Party of China, & State Council, 2020). Additionally, the main point is to assess how Chinese preschool education addresses the international standards of early childhood development while respecting the national culture. Hence, coordinated quality standards are to be undertaken to examine the current status of preschool education in China against global trends and frameworks.

Friese et al., (2017) expressed that great attention is being devoted to quality teaching and the use of technology in preschools. Nevertheless, this area of literature still has an open-ended issue concerning the efficacy of these practices in broader Chinese education and whether their implementation contributes to a more inclusive and adaptable learning environment. It also provides a critical point, making it useful for policymakers, teachers, educators, and other researchers researching diverse topics on global early childhood education (Zhang et al., 2017). This research focuses on the problem resulting from building on the introduction and the gaps found in the literature, which create challenges and ambiguous opportunities in the preschool education system in China. Even with the remarkable achievement of narrowing the quality and access to Early Childhood Education gap in towns and villages, the reality of low equality of ECE between urban and rural settings still needs to be solved. The inequality of educational resources between urban and rural areas in China has become a problem (Heckman, 2011), with children living in rural areas seeing the absences that the situation rendered, inadequately trained educators, and limited exposure to innovative teaching methods (Xie & Li, 2022). This imbalance has not only adverse effects on the immediate learning of these children but also long-term implications on how different children take up academics and socially interact with each other through the diversity of the preschool curriculum and the pedagogical strategies in China.

The Chinese government has done much work making plans and proposing national guidelines. However, the curriculum implementation and adaptation at the local level vary greatly, which is caused by (Feng, 2019). This lack of standardization raises a quandary regarding the efficacy of ECE programs and whether they can adequately address all children's developmental needs. Henceforth, it is harder to evaluate and improve the quality level of early childhood education in the nation (Xie & Li, 2022). More professional development needs to be provided for preschool education teachers in China (Li & Rosewell, 2020). In addition, maintaining cultural heritage and modern teaching methods in the framework of early childhood education in China is a particular difficulty. The coexistence of traditional Chinese cultural principles with updated pedagogic arrangements outlined a necessity for a curricula row with the described content being culturally relevant and conducive to overall development (Pan et al., 2015). Therefore, this study aims to conduct a systematic literature review that thoroughly investigates the evolution of preschool education policy in China, which plays a vital role in early childhood development. It required the government's intensified focus since 2010 on enhancing both access and quality standards of preschool education, which illuminated through the lens of historical policy shifts and their implementation.

## **2. RESEARCH METHOD**

This systematic review was designed based on the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines, ensuring a transparent approach to synthesizing the current state of preschool education in China. The PRISMA framework, with its 27-item checklist and four-phase flowchart, served as the foundation for this review, facilitating the identification, selection, appraisal, and synthesis of relevant literature. This methodology section details the processes involved in literature search and selection, criteria for inclusion and exclusion, data extraction and coding, thematic analysis, and ethical considerations. This methodological approach ensured that the systematic review was comprehensive, transparent, and reproducible, aligning to evaluate the current state and challenges of preschool education in China, as shown in Figure 1.



**Figure 1: Data Collection Flow**

### 2.1. Search and Selection Criteria

The literature searches and selection process for this systematic review were precisely planned and executed to ensure comprehensive coverage and relevance of the articles included. Online databases, including PubMed, Web of Science, Scopus, and ERIC, renowned for their extensive collections of educational and social sciences literature, were targeted for the search. The search used keywords and screen terms tailored to each database's indexing system.

The primary search terms included "preschool education," "early childhood education," "China," "curriculum," "pedagogy," "teacher training," and "educational technology." These terms were combined using Boolean operators (AND, OR) to ensure a comprehensive search. For instance, the search might look like "preschool education AND China AND curriculum" to narrow down the results to those most relevant to the study's focus. In addition to online databases, the search strategy encompassed examining literature papers, government reports, policy documents, and conference proceedings to capture a broader range of perspectives and insights into the state of preschool education in China. This approach aimed to mitigate publication bias and provide a more holistic view of the topic.

### 2.2. Inclusion and Exclusion Criteria

Carefully defined inclusion and exclusion criteria guided the selection of studies for this systematic review to ensure the study's relevance, as shown in Table 1. The process of selecting studies is based on the geographical location, education level, type of study, publication date and language. A primary focus was placed on geographical location, requiring that studies explicitly address preschool education within the People's Republic of China. Including urban and rural settings across various provinces allows a broad understanding of the country's educational practices and policies at the preschool level. The review concentrated on empirical research that provides insights into curriculum design, teaching methodologies, educational policies, technology integration, teacher training, and child development, specifically within the early childhood or preschool education spectrum (ages 3-6). A comprehensive collection of empirical research articles, including qualitative, quantitative, and mixed-methods studies, systematic reviews, meta-analyses, and policy analysis studies published between

January 2000 and December 2023, were considered to capture the significant developments in the field over the past two decades. Both English and Chinese language articles were included, acknowledging the extensive research in China's native language, which is vital for an in-depth exploration of the topic.

**Table 1: Inclusion and Exclusion Criteria for Systematic Review of ECE in China**

Criteria Type	Description
Geographical Focus	Inclusion: Studies focusing specifically on preschool education within the People's Republic of China, Exclusion: Research focusing on early childhood education outside of China
Educational Level	Inclusion: Research that provides insights into curriculum design, teaching methodologies, educational policies, technology integration, teacher training, and child development, specifically within the early childhood or preschool education spectrum (ages 3-6). Exclusion: Studies focusing on primary, secondary, or higher education levels without relevant insights into early childhood education.
Type of Study	Inclusion: Empirical research articles, including qualitative, quantitative, and mixed-methods studies, systematic reviews, meta-analyses, and policy analysis studies. Exclusion: Opinion or observational editorials, non-empirical commentary articles, and incomplete studies such as abstracts, conference proceedings, and unpublished dissertations
Publication Date	Inclusion: Studies published between January 2000 and December 2023. Exclusion: Studies published outside this date range.
Language	Inclusion: Articles published in English and Chinese. Exclusion: Studies published in languages other than English or Chinese.

### 2.3. Thematic Analysis

The process of thematic analysis began with a thorough examination of the secondary data, where the initial task was to identify potential themes that frequently appeared across the dataset. These themes shown in the literature review section indicate significant issues and trends within preschool education in China. We have identified 10 main and sub-themes from the literature review as shown in the section below. The iterative nature of this process ensured a rigorous and reflexive approach to theme development, allowing for the refinement and, where necessary, redefinition of themes to more accurately reflect the underlying data.

## 3. LITERATURE REVIEW

### 3.1. Child Education through Equitable Funding

China's two primary groups have supported increasing public funding for early childhood education (ECE). First, according to the United Nations Convention on the Rights of the Child, every child has the right to free and equitable obligatory education and care, irrespective of their religion, nationality, gender, ethnicity, race, and place of residence, living conditions, or family history (UNICEF, 2019).

Heckman and Savelyev (2013) demonstrated that funding early childhood education (ECE) can significantly benefit a nation's human capital and the lifetime well-being of its citizens. The Chinese Government has increased the funds allocation to the ECE system, considering the ever-expanding demand for ECE and recognizing the significance of ECE for individual, society, and country



enhancement (Ministry of Education of the People's Republic of China 2010). Public funding to ECE is a significant driving source compared to limited funds for parents and families (Ministry of Education, China, 2022). The Chinese government has made approximately USD 23 billion in ECE investments over the last ten years, growing those investments at an average annual rate of 20.6%. ECE received a larger share of the overall education budget in 2020, rising from 2.2% in 2011 to 5.9% (Zhao & Wang, 2019).

Nonetheless, state financing decreased dramatically in 2017; it accounted for 0.2 per cent of the country's Gross Domestic Product, less than the budget for primary education (Di et al., 2023). To provide equal opportunity and access to ECE, the state started funding more in remote areas and less developed provinces. As discussed above, the underdeveloped provinces, popularly central and western provinces, received less economic development and reduced government ability to spend on the ECE sector, resulting in a reduction in enrollment compared to those in more developed provinces (Zhou et al., 2017; Liu et al., 2022).

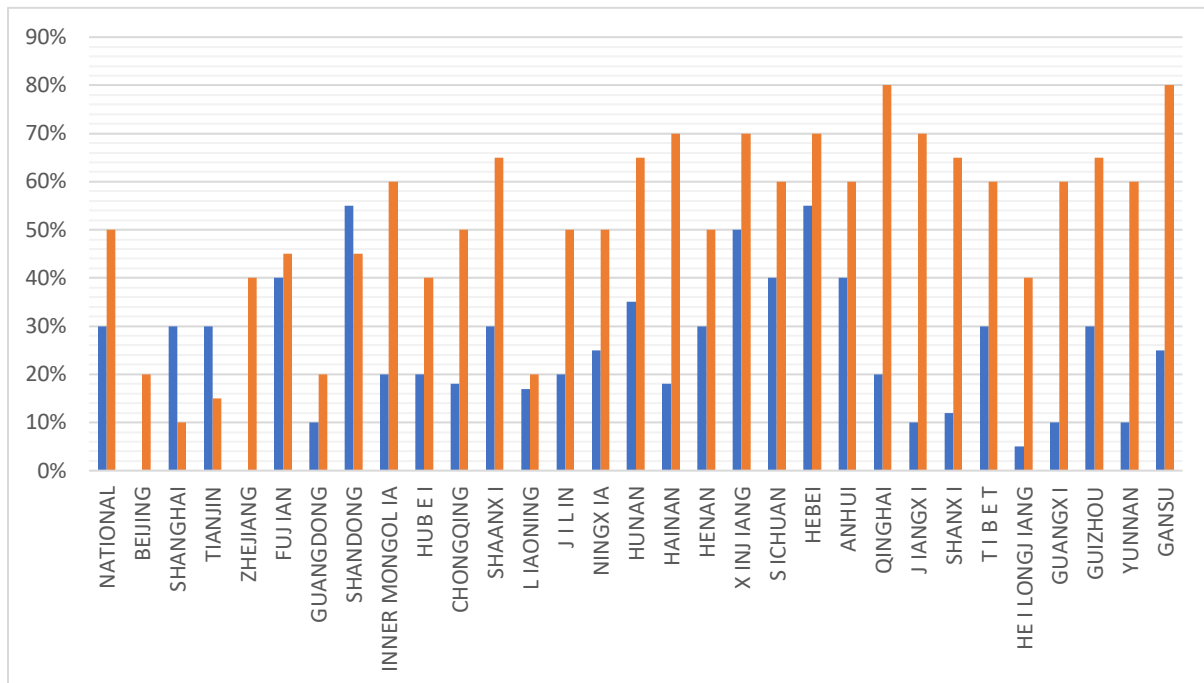
In each administrative unit, the local government prioritized spending funds for urban kindergartens and playgroups, leaving a more significant gap between western-central provinces and eastern provinces and rural-urban areas of the country (Yang & Hu, 2019). Therefore, one should not be surprised to observe many disparities in ECE enrollment. However, since 2010, the Chinese state has adopted a targeted approach to counter this gap by allocating more funds to the country's lagging financial areas in central and western localities (Qian et al., 2023). By adopting targeted policy, China has successfully established a fast pace for ECE in less developed areas in western and central provinces. From 2011 to 2021, more than 80% of new preschool playgroups were established in the western and central zones of the country, and approximately 60.1% remained established in the countryside (Ministry of Education, China, 2022). Table 2 shows the allocation of the public funds for early child education in China by region (2011-2021).

**Table 2: Allocation of Public Funds for ECE in China by Region (2011-2021)**

Province/Region	% of Public Funding Allocated to ECE (2018)	% of Funds Directed to Rural ECE (2018)	Comparison to 2011 (%)
Jiangxi	Not specified	71.75%	Increase from 2011
Xinjiang	Not specified	75.46%	Increase from 2011
Gansu	Not specified	77.15%	Increase from 2011
Hebei	Not specified	70.32%	Increase from 2011
Qinghai	Not specified	78.81%	Increase from 2011
Overall	48.3% of ECE fiscal revenue	49.27% directed towards rural ECE	Increase from 33.88% in 2010

Source: (Ministry of Education, China, 2022).

Local governments in each province must devote a sizeable amount of public funds to early childhood education (ECE) in rural areas. A study by Qian et al. (2023) shows how, in all provinces, local governments increased the percentage of public funding allocated to early childhood education (ECE) in rural areas in 2018 compared to 2011, as shown in Figure 2. Approximately 48.3% of the overall fiscal revenue for ECE was allocated to public funding for ECE in 2018, including support from the central and municipal governments.



**Figure 2. Patterns in public ECE financing for kindergartens in rural areas** (Source: Qian et al., 2023).

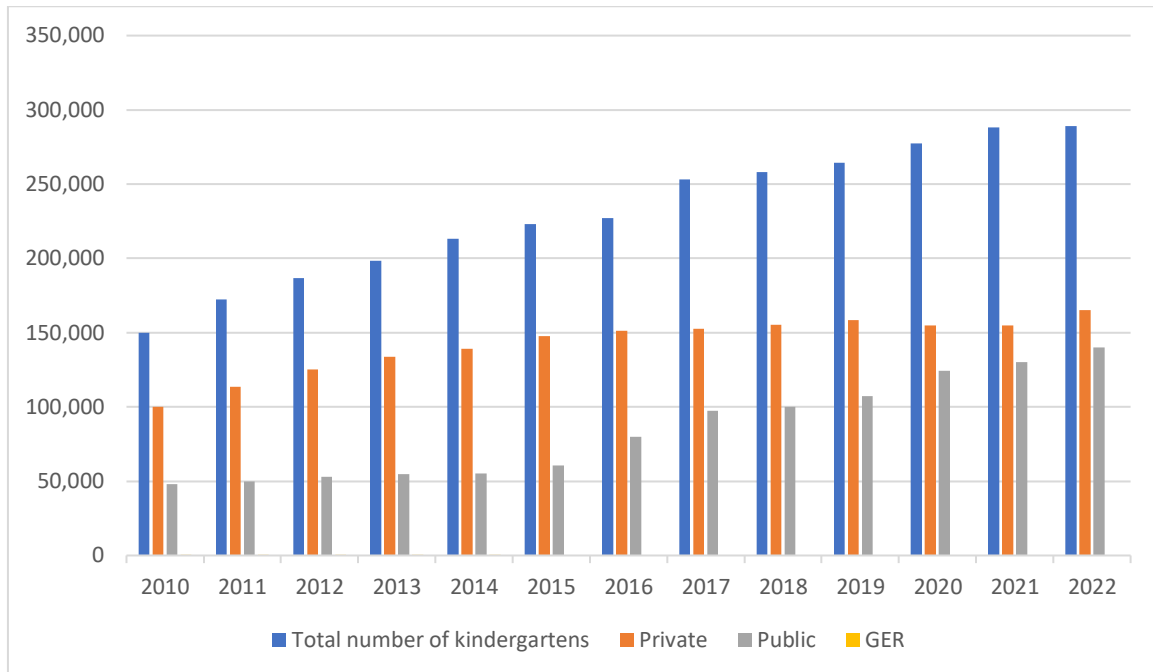
### 3.2. Families and Non-State Actors Coordination

The Chinese administration encouraged the private sector to provide better opportunities and ECE services that suit local demands. The Chinese government has regularized non-state actors to build a vibrant, flexible, and sustainable ECE system (Li et al., 2019). The Chinese state required big property owners to construct at least one early childhood school in its recently established society or community (Gan et al., 2016). It was observed that the increasing demands of ECE have led the Chinese government to authorize non-state actors to offer adaptable daycare centres and amenities, such as daycare provided in the community, domestic childcare, full-day childcare, and half-day childcare programs to meet the requirements of parents. With this collaboration, at the end of 2022, around 75,000 childcare centres have been established across the country. Most are established in less economically developed areas (Ministry of Education, China 2022). Every province's administration formulates policies and strategies to support non-state actors in improving ECE and childcare. The Chinese Government introduced a policy that alleviates the financial burden on families and parenthood whose kids are less than three years old and are eligible for a tax reduction program that allows them to receive up to Chinese Yuan 1000 in tax reduction every month (Ng, 2015). Expanding ECE refers to the supply and availability of children's participation in ECE programs. Access to ECE is a broad concept relating to the availability of a physical building or centres, proper usage of the ECE system, cost management, language, and cultural competence (Friese et al., 2017).

### 3.3. Early Childhood Education Participation and Availability

By 2010, the Chinese government introduced a new policy for early child education (ECE) reform, and a new course of action was discussed to tackle existing issues and hurdles regarding early childhood education expense and accessibility. The Chinese Government had a long-term plan to make ECE access universal concepts for all children from 3-6 years old to attend kindergartens and playgroups with reasonably priced tuition by 2020 (Rao et al., 2023; Fu, 2022). Chinese local administrative units have identified another critical factor that is to ensure the quality and equity

concerning access to ECE and enrolment in remote areas of the country because enrolment of the children, especially in kindergartens, is lower in less developed provinces and rural areas of the country (Zhang & Liu, 2017). A study by Rao et al. (2023) shows the impact of China's long-term strategies and policies for early child education, as shown in Figure 3, indicating that more than 128,000 new kindergartens—a growth of 76.8%—were opened between 2011 and 2021. As of 2022, 289,200 kindergartens are expected to have served approximately 46 million children aged three to six. In contrast, the GER for the ECE of children aged 3 to 6 was 89.7% in 2020.



**Figure 3. Kindergarten enrollment (2010–2021)** (Rao et al., 2023).

### 3.4. Early Childhood Education Suitability and Affordability

China has further enhanced the ECE system, making it vibrant, flexible, and, more importantly, affordable to all families (Pan et al., 2010). China has successfully launched a new system named Pu Hui Xing kindergartens. Pu Hui Xing can be explained as reasonably priced kindergartens. This system is very flexible and has the cost of tuition fees in either private or public kindergartens (Rao et al., 2023). Chinese local government has put together a fee portfolio in which the merits of the local quantity rating scheme decide tuition fees. Those kindergartens with a higher rating scheme charge tuition fees slightly higher than those with lower ratings. It must be addressed that all public kindergartens, including the Pu Hui Xing situation, in rural and less economically developed areas, charge lower tuition fees to minimize the burden on families. However, the Pu Hui Xing system of preschool playgroups must adhere to the instructions of the regional Chinese government concerning tuition fees and other charges. All those non-state actors or private kindergartens are autonomous in deciding their profits concerning tuition fees. However, the Chinese government has set a minimum profit base for private kindergartens.

Meanwhile, the regional government has minimized the number of nonprofit preschools to guarantee the central Xing system of ECE providers. For example, the local Government of Jiangsu decided that the highest profit rate should not exceed 15%. All these measures were taken to ensure the affordability of ECE (Gong et al., 2016).

### 3.5. Regulating Early Childhood Education System: A Shift to Process Quality from Structural Quality

Early Childhood Education (ECE) is not considered necessary schooling; however, one would observe that ECE is the basis of the children, and without proper and comprehensive guidelines, children cannot grow their critical thinking (Blair & Raver, 2012; Fu, 2022). With the rapid availability and high demand of kindergarten schools, the Chinese government realized that the necessary outcome could only be achieved with a quality ECE system (Camilli et al., 2010). Hence, the government tried to make concrete efforts to improve the quality of ECE to ensure positive outcomes for children. The Chinese Government has divided the ECE system into Structural Quality and Process Quality (Rao et al., 2023; Heckman et al., 2013). Structural quality relates to the physical structure, such as buildings, size of classes, number of enrolled students, number of teachers, teachers' qualifications, cleanliness, safety, workforce, and overall availability of required resources (Rao et al., 2023). Process quality can be referred to the interactions between teachers and children, the activities of the children, the teacher's overall efforts and effectiveness, and the overall outcomes of children's learning and understanding (Rao et al., 2023; Aziz et al., 2018). The state has focused on the availability of structural quality and developed quality infrastructure with all necessary facilities (Huang & Gao, 2018).

Structural quality emphasizes the environment, which plays a vital role in promoting and enhancing the ability of children to learn and understand in a proper setup. Therefore, since the start of kindergartens, the Chinese government has considered environmental development as key to the ECE system's success (Zhang et al., 2019). A proper environment can promote children's social and moral behaviour, while a disorganized, chaotic, and improper environment will lead children somewhere else (Raikes et al., 2023). The Chinese government can provide structural quality of early childhood education; however, they have yet to develop process quality where teachers' training is more important.

### 3.6. Transitioning Focus to Process Quality from Structural Quality

Kindergartens' physical construction and tuition costs are considered structural quality, size, resources, classrooms, number of enrolled students, number of teachers available, staff qualifications, and health, cleanliness, and safety. At the same time, the quality of the process includes teaching, learning, developing an understanding of children, and overall child development. Structural quality indicators are explained below separately.

**Tuition Fees.** The Chinese authorities have strictly regulated rules for tuition fees of kindergartens, especially for publicly funded kindergartens. Chinese local government has set parameters to monitor and evaluate tuition fees for kindergartens, which are determined by the local Government (Ghodrati et al., 2023). The Chinese government has been autonomous in deciding their tuition fees for private organization-owned kindergartens but must make it manageable for families and parents. Even though these policies were introduced to reduce financial burdens, the efforts were widely criticized for being motivated more by legal objectives than by promoting quality education services concerning cost-sharing systems (Feng, 2019). Indeed, all kindergartens across the country have the same criteria and quality. Nevertheless, it is observed to believe the distinctions in running costs and public funding received by different kindergartens (Feng, 2019).

**Physical structural, size and resources.** The physical structure of kindergartens' recommendations include how they should be built, where they should be built, what kind of location they should be, and other related factors regarding physical structure. Chinese government policies are essential to follow the rules and regulations concerning recommendations of physical structure (Xia et al., 2023).

Kindergartens should have a minimum of four square meters of playgrounds per student outside of the building, and half of the total building area should be open for sunlight for at least 2 hours a day in winter. Kindergarten rules and regulations recommendations have led to at least 2 hours a day of children playing outdoor activities, famously known as extra-curricular activities (Ministry of Education, China, 2022).

Staff credentials, class size, and teacher-to-child ratios. The dimensions of a classroom and the ratios of students to instructors determine the structural quality of early childhood education (ECE), considering essential quality characteristics and promoting teacher-child interaction (Rao et al., 2023). The country's education ministry has mandated that a classroom can include no more than 25, 30, or 35 students, teaching children ages 3-6, 4-5, and 4-5 years, respectively (Hu & Szente, 2009). China has also directed all the local educational institutions to have at least two instructors and one caretaker in each classroom. However, kindergartens in practice need help following government regulations concerning classroom size and interactions between teachers (Hu et al., 2014).

**Health and safety.** The government has formulated a joint responsibility plan with the local health administrative units, kindergarten administration, and additional health providers like the Center for Disease Control and Prevention to ensure children's healthy development (Li et al., 2016). The Ministry of Education (MoE) and the National Health Commission (NHC) controlled food safety, hygiene, and other aspects of kindergarten health (Liu & Eveland, 2005). The local Departments of Health assess the newly constructed kindergartens' safety, hygiene, and health standards. Kindergartens that serve 150 or more children must also have a qualified healthcare provider on staff, especially in rural and less economically developed areas where health facilities are low compared to developed and urban areas (Rao et al., 2019). Kindergartens must create a thorough and efficient healthcare policy, perform daily physical examinations on students, monitor their growth and development, conduct checks to prevent infectious diseases, establish a sound daily schedule, maintain cleanliness standards, and give students a balanced diet.

### **3.7. Teaching, learning, and growth of children**

Different from the structural reforms, the process quality could be better defined and has been left to local autonomous educational administrative units (Rao et al., 2023). Nonetheless, the central Ministry of Education has given general guidelines concerning kindergarten teaching and learning process (Wang et al., 2008). For instance, the Kindergarten Working Regulations (KWR) emphasize that kindergarten instruction should be developmentally appropriate and consider each child's unique developmental differences (Rao et al., 2023; Sayre et al., 2015). Additionally, they acknowledged extra-curricular activities as the best instructional approach and mandated that kindergartens establish a stimulating and educational environment to aid their students' learning.

In 2022, the central Ministry of Education prohibited literacy teaching in kindergarten classrooms. Along with the ministry has provided a memorandum stipulating guidelines that explicitly define the process quality, Assessment regulations for ECE and health supervision in kindergarten (Magwood et al., 2022)

The rules and regulations address the teaching staff, learning environments, and teaching and learning procedures (Rao et al., 2023; Sachs, 2016). It has been noted that the rules and procedure guidelines support the value of teacher-student connection, home-school community cooperation, and activity-based early childhood education. The most popular curricular method in Chinese kindergartens takes a theme-based approach, integrating the main areas of education and cognitive growth of children

(Min et al., 2023). These include socioemotional well-being, language and literacy, science, health and nutrition, and creative talents. Chinese central education ministry and local educational administrative units shifted focus from the structure to the process of ECE quality, showing that the former cannot ensure children's learning outcomes and experiences on its own (Slot et al., 2015; Xie et al., 2022)

### **3.8. Innovative Solutions to Quality Assurance and Development**

It is believed that there is a growing agreement regarding rigorous oversight and high-quality control systems, which are vital for the development of ECE systems globally (Raikes et al., 2023). A robust monitoring and assessment system can help the government evaluate the effectiveness of the ECE system and indicate need-based targeted areas to make the ECE system more efficient and competent around the world (Mou and Ding, 2020). Although prevailing Policymakers in China can obtain internationally comparable information via international data, for example, the Demographic and Health Survey (DHS) and the Multiple Indicator Cluster Survey (MICS), they still require information that includes indicators specific to the policymaker's home country.

China's ambitions to ensure a universal high-quality ECE system have motivated developing countries to adopt measures to strengthen their kindergartens and preschool education (Hu et al., 2015). Before adopting new Chinese policies in 2010, local administrative and educational units adopted the local rating system in kindergartens.

The speedy extension of ECE facilities since 2010 has made creating a quality assurance framework (QAF) more urgent in order to gauge early childhood education quality in China nationwide. For the last ten years, China's adopted policies have marked the increasing demand for monitoring and assessing quality assurance at the local level of kindergartens. However, before 2010, in local kindergartens, monitoring policies of quality assurance was not mandatory, and large numbers of kindergartens at the local level were not evaluated (Pan et al., 2015; Nasir & Jabar, 2022).

### **3.9. The Kindergarten Quality Rating System**

Local governments evaluate the Kindergarten Quality Rating Systems (QRSs), which are province-specific objectives, to determine the quality standard of the kindergarten school for preschool education children (Hu et al., 2015). China has adopted the Quality Rating System (QRS) primarily to monitor the quality of kindergartens across the country (Nutton, 2020). Quality standard objectives are to measure the management of teaching and learning, the interaction of families in kindergarten, and financial issues. The Kindergarten QRS of Guangdong province, for instance, uses a thirty-nine-item tool for evaluating quality (ii) specific structural dimensions of quality (staff qualification, class size, availability of services, learning materials, and total number of staff and total number of enrolled kids (Liu, 2014). The legitimacy and effectiveness of the QRS system require further attention, and rating standards vary in each province based on the policy determined by the Government (Sheridan et al., 2009). This indicates an inappropriate national standard for ECE quality (Min et al., 2023). Various scholars in China have correctly identified an alarming phenomenon that the application of QRSs may have unexpected results in variations in ECE supply, ECE quality, Structural and process quality, and there would be chances for an increase of inequalities while monitoring the overall progress of ECE (Pan et al., 2010).

Several provincial authorities have intentionally dispensed enough funds to support the effective authorization of a restricted volume of kindergartens, mostly public-sponsored playgroups (Di et al., 2023).

### **3.10. Kindergarten Evaluation and Supervision Scheme**

The federal authorities of China 2017 introduced the Kindergarten Supervision and Evaluation Scheme (KSES) to assess the quality and progress and to enhance the quality of former kindergartens to support and promote local governments' parameters of supervision to improve ECE quality and efficiency (Safitri & Istiyono, 2022). Kindergarten evaluations nationwide are becoming more and more standardized, enabling the authorities to gather information on pre-established indications of quality. The assessment, which covers five areas: kindergarten condition, security, cleanliness, care, staff management, education and healthcare, can be advanced and carried out by provincial governments (Fatkhurohman, 2022).

It has been observed that when local government takes responsibility for monitoring and evaluations, there is a slight strain between the teacher's supervising and monitoring system (Pan et al., 2010). Teachers may be concerned about meeting the required criteria for a quality monitoring system, leaving behind a crucial teacher's philosophy related to the ECE system (Sachs, 2016). Therefore, the school must provide enough professional support for teachers. This has shown that when kindergarten tutors are invited to make their valuable participation in important decisions, the policy-making process, and curriculum innovations, ECE teachers feel comfortable, which, in return, improves their job satisfaction and their well-being even under a strict environment (Xia et al., 2022).

### **3.11. Quality Early Childhood Enrolment**

Statistical facts reveal that the Chinese have a strong preference for male children. However, the birth ratio significantly claims that the number of male children is higher than that of female children (Tang, 2023). Chinese official data from the Ministry of Education (2022) have claimed no difference in the enrollment of boys and girls in ECE education. The involvement of ECE children in China varies, indicating that the ECE system mainly provides education for children 3-6 years old. At the same time, six years old is the official enrollment age for primary Grade 1. One cannot be surprised that children aged 3 and 6 have a small portion of enrollment in ECE, roughly 2% to 6%, respectively. A national survey revealed an inadequate enrollment rate in rural areas for children aged three, indicating that rural kids spend less time in kindergartens (Tang et al., 2023).

Domestic surveys and local administrative databases have shown encouraging trends in the country's gross enrollment ratio of children in ECE from 3 to 6 years (Liu et al., 2022). The Chinese government formulated a national policy that upholds the same kindergarten standards nationwide. Kindergarten enrollment in the western region climbed by 76.3% between 2010 and 2018, while enrollment in the eastern and central regions decreased by 65.1% and 35.7%, respectively (Chen, 2018). The enrollment of children between the ages of 4 and 6 in rural western areas and urban eastern regions decreased from 36.0% in 2010 to 19.0% in 2016 (Chen et al., 2019). It is observed through various research conducted in China that classroom size affects teachers' beliefs about the development and related activities of children (Hu & Szente, 2009).

## **4. DISCUSSION**

China has worked incredibly hard to ensure children from diverse backgrounds have better access to high-quality early childhood education (ECE). This shows the importance of the state in allocating funds, developing quality standards, formulating and implementing policies, and regulating non-state actors. Despite enormous progress in increasing admission to early childhood education, there are still obstacles to securing fair and universal admission to the ECE quality system (Tan, 2023). Nonetheless, Children's development is hampered by persistent problems such as regional discrepancies

between urban and rural areas, difficulties unique to immigrant children, and a shortage of teachers with formal training. These issues are currently covered by state legislation, and with the advancement of technology, efforts to resolve them will also provide for the observation and control of the preschool system.

Li et al. (2016) examine the effects of urbanization and maternal education on the relationship between kindergarten structural and process quality in Zhejiang, a developed region in eastern China and kids' language, early numeracy, and social cognitive development. They discovered the importance of high-quality early childhood education for both urban and rural children, regardless of their mother's level of education (Li et al., 2016). Their research showed that kindergartens, ECE quality education and ECE participation of children have a positive role regardless of their family background. Due to a lack of research and national statistical data in China, it is nearly impossible to establish a consensus on whether kindergartens' participation has significantly narrowed socio-economic gaps and children's outcomes.

A study by Slot et al. (2015) indicated a massive demand for qualified preschool teachers in China. The merging of technology and innovative modes of teaching in ECE is also another part that is highly important to that problem statement of mine. Though the connection between technology and teachers and students in primary (early) school is becoming more robust, it is hard to find results of the effectiveness and results of influence technology brings to child development in China (Hu et al., 2015). Even though free and mandatory ECE still needs to be mandated by law, the country is working hard to achieve this objective. It is essential to believe that the early childhood education legislation (draft) passage will remove barriers and launch a new stage in the growth of ECE in China. To address the early childhood development targets of the Sustainable Development Goals (SDGs) of the United Nations, a complete, rational, unbiased, and accessible ECE system is being built. The Chinese Government works very hard to ensure that all children can realize their latent learning potential via the combined efforts of educators, parents, and community members. An ECE system's success depends on having a workforce of certified, experienced, and competent ECE teachers. Additionally, a new policy should be developed that provides for the welfare of ECE employees and enough pay and other benefits for teachers.

## **5. CONCLUSION AND RECOMMENDATIONS**

The systematic review of China's evolving policy in early childhood education (ECE) underscores a significant period of transition and reform, reflecting the state's increased intervention and the pivot towards a more inclusive, equitable, and high-quality ECE system. This transition, initially marked by the reduction of public funding in the 1990s to a resurgence of state responsibility in the 2010s, signifies a critical acknowledgment of ECE as a cornerstone for societal advancement and individual development. This review highlights the strengths achieved and the remaining challenges still faced in the affordable and quality ECE program in a multiplicity of rural and urban backgrounds across China. While there has been significant formal progress regarding universal ECE attendance, provided by great financing and policy reforms designed to enhance structure and processes, inequities in participation and quality, spanning from urban to rural areas and uneven areas across the country, still need to be solved. These challenges are further complicated by inadequate supply of formally qualified ECE teachers and disparities in the quality of ECE service delivery across different regions, with the less developed areas being the worst example. This study concluded that China has extensively worked on the structural policy; however, much work is still required on the process policies, which are required to train teachers and enable them to understand early childhood education better.



The recommendations are designed to tackle the challenges above and utilize the existing opportunities that are in the way of making ECE available, as well as quality and equitability throughout China. Public investments in early child education should be prioritized in grassroots areas, such as rural and developing areas. Rural classrooms, which have been overlooked as technological focal points, should be integrated with technology for better learning outcomes and to close the gap between urban and rural education. In addition, implementing a national standard of ECE quality is promising, including developing and implementing these standards. Such quality standards should involve structural and process indicators like the teacher-student ratio, classroom environment, and curriculum relevance, as well as the pedagogical abilities of teachers. Setting up precise and quantifiable credentials will allow us to integrate monitoring and continuously improve the ECE's quality by uniform standards nationwide. Furthermore, the issue of continuing education and assistance for the staff of early child educational centres is of great significance. To achieve this, training programs should be set up to continuously update educators to incorporate the significant principles of modern teaching skills and the present-day understanding of early childhood education.

In addition to enhancing the conditions of the education workers by providing them with better pay and employment opportunities to advance their careers, there will be an influx of high-quality staff. In addition, the Chinese government has introduced ECE to the school system, so it has become mandatory in education. Such legal compulsions for ECE to be free and compulsory would straight away give rise to the systemic problem of access to early learning in an equitable way. We will also be pepping up the state's public plan for early childhood development because it is a public asset that, over time, can help the nation prosper.

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