Exploring the Educational Potential of Immersive New Media Art in Urban Commercial Spaces in Dalian City, Liaoning Province, China

Guanglong Sui¹ & Boonsom Yodmalee¹

Correspondence: Guanglong Sui, Faculty of Fine-Applied Arts and Cultural Science, Mahasarakham University, Thailand.

Received: August 6, 2023 Accepted: September 30, 2023 Online Published: January 20, 2024

Abstract

Contemporary Chinese art has witnessed a transformative evolution in the realm of installation art, particularly in the context of immersive new media installations within urban commercial spaces. This study explores the educational potential of immersive new media art in urban commercial spaces in Dalian City, Liaoning Province, China. The research journey spans various stages of Dalian's installation art development, from its early emergence in the 1980s to the prosperous period in the 1990s and its diversification in the 21st century. Key themes explored include the evolution of artistic expression, the impact on education, and the integration of new media in urban commercial spaces. The research site primarily focuses on Dalian's cultural and commercial landscapes, with a spotlight on the Xiongdong Street project. The study employs a qualitative research methodology, combining field research, interviews, multimedia elements, and data analysis to offer comprehensive insights into the subject matter. Key informants include artists, scholars, and experts within the field of installation art. The research results reveal the dynamic evolution of Dalian's installation art, its educational significance, and its integration into urban commercial spaces. The study suggests that immersive new media art has the potential to enrich art education, engage the public, and foster cultural and commercial development.

Keywords: immersive new media art, urban commercial spaces, art education, Dalian city, contemporary art

1. Introduction

In recent years, the realm of art has undergone a profound transformation, extending its influence beyond the confines of traditional exhibition halls to immerse itself in various facets of public life. This transformative phenomenon represents a departure from the conventional aesthetic paradigm, characterized by singular sensory experiences and static landscapes, toward a dynamic, immersive, and multidimensional aesthetic paradigm. In this evolving era of artistic creation, the emphasis lies on engaging the audience, facilitating immersion, fostering interaction, and promoting communication, with a central focus on public participation. Consequently, the creation of art has transitioned from a solitary endeavor to a collective experience. New media installation art, once regarded as a solitary form of artistic expression, has evolved into a dynamic and inclusive art form capable of eliciting emotional responses from the public and conveying popular ideas within the realm of commercial spaces. In essence, it has democratized art, making it accessible to a broader audience.

Scholarly investigations have ventured into the convergence of interactive installation art and cutting-edge technology, resulting in the creation of inclusive art spaces that prioritize the needs and experiences of the public. Similarly, studies exploring the visual symbols of public art within urban commercial spaces have advocated for seamless integration, fostering a mutually beneficial relationship between public art and the commercial environment (Su, 2017). These endeavors highlight the vast potential of new media installation art, characterized by its interdisciplinary nature and myriad modes of expression, paving the way for its application across diverse domains.

The rapid development of e-commerce platforms has ushered in an era of transformation for physical commercial spaces. This transformation, driven by the need to provide unique experiences and differentiation, has led to the evolution of urban commercial spaces into environments that emphasize artistic and aesthetic appeal. These spaces are no longer constrained by their traditional roles; instead, they serve as canvases for cultural symbols and expressions forged through mass consumption and entertainment. Under the pervasive

¹ Faculty of Fine-Applied Arts and Cultural Science, Mahasarakham University, Thailand

influence of consumerism and materialism, the creation of atmosphere within commercial spaces and the enhancement of the consumer experience now relies heavily on various forms of art. Consequently, urban commercial spaces have witnessed the infusion of new cultural significance and experiences (McGuire, 2013).

Located in the southern region of Northeast China, Dalian City occupies the southernmost tip of the Liaodong Peninsula. It holds the status of a sub-provincial city and an independently planned city and serves as a pivotal coastal economic hub, a major port city, and a picturesque tourist destination in northern China. The Central Committee of the Communist Party of China bestowed upon Dalian the monikers "Northern Pearl" and "Capital of the Bohai Sea" in commemoration of its centennial anniversary in 1999. Over the course of a century, this coastal city has navigated a tumultuous journey through history's ebbs and flows. Currently, the presence of installation art within Dalian's commercial spaces remains relatively sparse. Notable exceptions include the introduction of interactive piano stairs at Hang Lung Plaza in 2015 and the emergence of Xiongdong Street Xiongbeibei, an innovative cultural, business, and tourism core IP (intellectual property). The prevailing trend in commercial space design centers on the creation of immersive consumer experiences. New media installation art, with its contemporary themes, adaptable modes of expression, and striking visual impact, has garnered widespread public attention and participation. It is increasingly recognized as a catalyst for elevating the consumer experience within urban commercial spaces.

The infusion of new media installation art not only aligns with the evolving trajectory of commercial complexes but also plays a pivotal role in shaping interactive, experiential social spaces that are sustainable. Considering the ongoing transformation and challenges faced by Dalian's urban commercial spaces, it becomes imperative to construct a theoretical model that offers design insights and references for the future development of Dalian's urban culture. Thus, this research seeks to analyze the transformative influence of immersive new media installation art on Dalian's urban commercial spaces. It specifically examines the capacity of new media art to enhance the educational potential within these spaces and create enduring interactive and experiential environments.

2. Research Objectives

To Explore the educational potential of immersive new media art in urban commercial spaces in Dalian City, Liaoning Province, China.

3. Literature Review

3.1 The General Knowledge of Immersive Arts Experience

Immersive arts experience, a field gaining prominence in the realm of positive psychology, offers a unique and profound emotional encounter wherein individuals become wholly engrossed in a crafted environment, experiencing happiness and excitement. These immersive experiences, often associated with virtual reality, media arts, and video games, have roots dating back to the mid-20th century in the United States (Brigante, 2019). They have since evolved into a pivotal facet of entertainment, exhibitions, and cultural travel, creating value by enhancing entertainment, fostering social interaction, and facilitating personal growth (Li, 2021).

Immersive encounters, defined as states where individuals focus entirely on target situations to experience pleasure and satisfaction, incorporate sensory and interactive elements. Research in this domain delves into the integration of digital interactive art to create immersive experiences, emphasizing narrative construction, cultural context, and intellectual property (IP) integration (Ren, 2019; Stetz, 2022). In China, immersive experiences have transitioned from early phases characterized by "showmanship" to technologically enriched engagements (Yu et al., 2022; Li et al., 2023).

Notably, international immersive art predates Chinese developments, with the UK showcasing rapid growth in the field. Landmark examples include Disneyland's "Pandora: Avatar World" theme park, which merges intellectual property and technology to create immersive, dreamlike experiences (Macve, 2020; Li, 2021; Wang et al., 2022).

In China, immersive exhibitions like "Rain Room" and "The Art of Light" at the Yuz Museum and the Long Museum (West Bund), respectively, signal a novel art form and exhibition method termed "immersive exhibitions" (Popoli & Derda, 2021). These exhibitions immerse viewers, momentarily transcending the boundaries of the real world (Biggin, 2017).

In summary, the evolving landscape of the immersive arts experience, with its sensory richness and integration of technology, offers diverse opportunities for entertainment, cultural enrichment, and artistic exploration, marking a convergence of art and technology that continues to shape contemporary experiences (Li, 2021).

3.2 The Culture of Urban Commercial Space

Urban public spaces, including commercial complexes, play a vital role in urban culture and public life. The article examines the interaction between the external space of commercial complexes and people, drawing from Habermas' public sphere theory. It aims to create shared and popular external spaces for citizens. Due to the sharing economy and information technology, the concept of "sharing" has become more popular in urban development. However, urban commercial complexes can become isolated mega-structures if not designed with shared spaces in mind (Gehl, 2007; Mandeli, 2019).

Public art is central to urban culture, serving as a means of cultural expression and transmission. Different types of public art reflect a city's unique history, culture, and values. Urban cultural symbols, such as landmark buildings and sculptures, are significant in shaping a city's identity. A strong urban culture enhances the cultural accomplishments of residents and contributes to the development of a civilized city.

Urban commercial spaces are evolving to meet changing consumer demands and urbanization trends (Madlener & Sunak, 2011). They have shifted from single-function spaces to integrated, multi-purpose complexes, catering to diverse consumer needs. Different types of commercial complexes serve specific roles in urban areas, such as fashion and high-end consumers, regional commercial complexes, and community commercial complexes.

Undate of domestic commercial space model from 1990s to present

Period	19811990	19912000	20012010	2011present
Stage Features	Initial stage	Mature scale	Innovate with the old	Differentiated development
Updated initiatives	Traditional quanye shops and commercial streetswill be renovated toretain traditional retail functions and add more business forms	The scale of commercial buildings is gradually expanding, a large number of department stores, shopping centers have been erected, and business is increasingly prosperous	The trend of commercial complex is emerging, traditional commercial space is trying to transform, and theprototype of theme commercial space is displayed	The commercial complex modelis determined, backward business models are eliminated, and differentiated space experience is gradually explored
Consumer demand	Practical consumption- oriented	Trend towards recreational consumption	Entertainment consumption mainly	Towards experiential consumption
Spatial patterns	Commercial pedestrian street, a small number of comprehe- nsive department stores	Department stores, shopping centers	Department stores, shopping centers, to build a large number of commercial complex	Shopping center, commercial complex mainly
Distribution of business forms	Shopping and catering	Shopping, dining, leisure	Shopping, dining, leisure, service integration	All forms of business

Figure 1. The commercial space model from the 1990s to the present

Source: Li Luo, 2022.

Common characteristics of commercial complexes include their strategic locations, large-scale and sustainable construction methods, and integration of various urban functions. These complexes create a complex internal traffic system, diverting traffic effectively and maximizing resource utilization.

New media installation art is often used in urban commercial spaces to enhance their appeal and provide immersive experiences. This article provides valuable insights into the cultural and functional aspects of urban commercial spaces, emphasizing the significance of public art, cultural symbols, and the evolving nature of commercial complexes in shaping urban culture and identity.

3.3 Concepts and Theories Used

- 1) Semiotics is a theoretical concept that explores the role of signs and symbols in communication, focusing on their significance in constructing social reality and cultural norms. It distinguishes between iconic and symbolic signs and explores how different cultures interpret these signs, leading to shifts in meaning over time (Chandler, 2022).
- 2) Experiential economics focuses on shaping sensory experiences and consumer identities through real-life situations, particularly in the digital economy. It emphasizes the importance of engaging consumers on a sensory

and emotional level (Pine & Gilmore, 2011).

- 3) Imitational is an art theory that emphasizes the imitation of reality to create works of art, emphasizing the artist's commitment to detail, authenticity, and faithful reproduction of external elements. It is closely associated with realism and traditional art forms like painting and sculpture (Smith, 2018).
- 4) Emotionalism is an art theory that places emotions and empathy at the core of artistic expression. It emphasizes the elicitation of emotional responses from viewers, emphasizing the diversity of emotions that art can evoke. This theory prioritizes the subjective experiences of the audience and asserts that the value of art lies in its capacity to stimulate emotional resonance, provoke profound emotional experiences, and prompt contemplation of underlying themes. Overall, semiotics, experiential economics, and emotionalism provide valuable insights into the role of signs and symbols in communication and the impact of art on consumer behavior (Konečni, 2015).

4. Methodology

This research employs a qualitative research methodology to investigate the utilization of immersive new media installation art within the urban commercial landscape of Dalian. To gather pertinent data, the researcher draws from a variety of sources, including relevant literature and research papers.

Field research serves as a primary means of data collection, involving a comprehensive approach that encompasses basic surveys, meticulous observations, in-depth interviews, and engaging focus group discussions. The research process also incorporates multimedia elements, encompassing the capture of photographs, video footage, and audio recordings.

Data analysis revolves around the application of pertinent concepts, theories, literature, and relevant research findings. The researcher employs a descriptive analysis method, which facilitates the systematic categorization of data in alignment with the specific research objectives. This multifaceted approach ensures a thorough and comprehensive exploration of the subject matter.

The research objectives guided the utilization of purposive sampling to select three specific groups of individuals as interviewees for the field research. These groups encompassed four key informants, ten casual informants, and fifteen general informants.

5. Result

5.1 Historical Background of Early Dalian Immersive New Media Installation Art

The early Dalian Immersive New Media Installation Art emerged in the 1980s, following the Cultural Revolution in China. This period saw a shift from traditional art and culture to a more politically stable China, with the introduction of reform and opening-up policies. Chinese artists began to explore international art trends and concepts, such as Western avant-garde art and installation art, which influenced their creative thought and expression.

Dalian's urban commercial spaces witnessed the early emergence of installation art as a distinct form of artistic expression, dating back to the early 1980s. Installation art, also known as environmental art or ready-made art, prioritizes the interplay between space and environment and is typically presented in three dimensions. The initial stage of Dalian's installation art development was marked by a transition from insularity to openness within Chinese contemporary art. Dalian's artists began engaging with the internationally acclaimed trend of installation art and sought to incorporate it into their local creative endeavors.

During this period, Dalian's artists embarked on an enlightening journey of study and research into installation art, drawing inspiration from international luminaries such as Marcel Duchamp and Joseph Beuys. Participation in art lectures, seminars, exhibitions, and interactions with artists from both domestic and foreign realms broadened their horizons and equipped them with a profound appreciation for the unique qualities of installation art

During its nascent phase, installation artists in Dalian primarily showcased their creations through individual or group exhibitions held in galleries, art museums, and public spaces. These exhibitions not only acquainted the public and critics with installation art but also acted as catalysts for its dissemination and acceptance within the local sphere.

In their pursuit of creative expression, some Dalian artists harnessed locally available materials and elements to infuse installation art with a unique local perspective. By placing installation works in specific locations or public spaces in Dalian, they effectively integrated their art with the urban environment and conveyed their perspectives on local culture and societal issues.

In their formative years, Dalian's installation artists regularly exhibited their works through solo or group exhibitions, co-organizing art exhibitions, or participating in local art exhibition salons. This phase laid the groundwork for the subsequent growth of Dalian's installation art, underscoring the proactive exploration and innovative spirit of Chinese contemporary artists on the global art stage.

5.2 The Flourishing Phase of Dalian's Immersive New Media Installation Art: Impact on Education.

From the middle of the 1980s to the 1990s, Dalian's installation art experienced its most successful period, which saw significant artistic advancement and educational implications. This period saw the emergence of renowned artists such as Zhang Dali, Liu Xiaoguang, and Wei Dong, who formed a closely-knit community within Dalian's artistic circles, engaging in collaborative creation and intellectual discourse. This collaborative atmosphere allowed artists to collectively explore artistic concepts, techniques, and creative methods, which, in turn, elevated their artistic skills.

Throughout this prosperous period, Dalian's installation artists increasingly infused their creative works with social and environmental themes, demonstrating a growing concern for these issues. They embarked on a journey to explore more intricate and profound subjects, enhancing the ideological and artistic depth of their installation art pieces. For example, Liu Xiaoguang's work, "Green Dome," centered around reflections on environmental degradation and ecological issues, offering insights into the intricate relationship between humanity and nature through installations. Similarly, Zhang Dali's piece, "Steel City," delved into the impact of industrialization on urban landscapes and human experiences. These works attest to the artists' heightened sensitivity and profound contemplation of contemporary social issues, offering an educational perspective on these concerns.

During this prosperous stage, installation artists used their works to convey concerns and reflections on prevalent social issues of the time. They examined the consequences of urbanization, industrialization, and consumerism, exploring how installation art could serve as a medium to address these societal and environmental matters. The artworks became potent tools for presenting and delving into social and environmental issues, offering viewers a deeper and more meaningful understanding of these concerns through art. This educational approach through art allowed for a nuanced exploration of societal conditions and human living conditions during that period.

Dalian's installation artists began to carve out their distinctive creative styles during this phase, venturing into new artistic styles and techniques, making their installation art pieces more innovative and individualistic. Some artists experimented with diverse forms, merging installation art with performance art, photography, and video, thus enriching their artistic repertoire. This innovation rendered Dalian's installation art distinct within the local art scene.

During this prosperous period, Dalian's installation artists actively engaged in various art exhibitions and exchange activities, allowing a broader audience to appreciate and understand Dalian's installation art. Additionally, interactions and collaborations with artists from other regions and countries facilitated the global exposure of Dalian's installation art.

The prosperous stage witnessed the growing attention of both domestic and international art markets toward Dalian installation art, with works by installation artists appearing in auctions and galleries, attracting collectors and investors alike. This burgeoning interest encouraged more artists to devote themselves to the creation of installation art, emphasizing its educational and market value.

During this prosperous period, Dalian's installation art began to exert a significant impact on society. The media extensively covered installation works, and artists emerged as influential figures in art education and cultural promotion. The prosperity of installation art served as an inspiration for numerous young artists, encouraging them to explore and invest in this art form. This burgeoning interest and attention emphasized the educational and cultural significance of installation art in society.

Table 1. The various aspects of the prosperous phase and its impact on education

Aspect of Impact on Education	Description		
Artistic Confluence and Intellectual	Renowned installation artists in Dalian formed a close-knit community, fostering mutual		
Exchange	inspiration and artistic growth through intellectual discussions and collaborations.		
	Educationally, this promoted a vibrant artistic atmosphere		
Deepening of Artistic Concepts and	Installation artists in Dalian infused their works with social and environmental themes,		
Expression	offering educational perspectives on complex issues, such as environmental degradation and societal consequences		
Addressing Social and Environmental	Installation artworks became powerful tools for presenting and exploring social and		
Issues Through Art	environmental concerns, allowing viewers to gain a deeper understanding of these issues through art		
Fostering Unique Artistic Styles	Dalian's installation artists developed distinctive styles and innovative techniques, offering		
	educational opportunities for viewers to appreciate unique artistic approaches, such as repurposing everyday objects		
Participation in Art Exhibitions and	Active participation in national and international exhibitions broadened the educational reach		
Exchange Activities	of Dalian's installation art, enabling a broader audience to appreciate and understand it		
Development of the Art Market	Growing attention from domestic and international art markets provided financial support and encouraged more artists to engage in installation art, emphasizing its educational and market value		
Enhancement of International Influence			
Emancement of International Influence	International exposure through art exhibitions and exchanges expanded Dalian's installation art's reach and international recognition, highlighting its educational significance on a global scale		
Social Impact and Advancement of Art	Dalian's installation art had a notable impact on society, inspiring young artists and		
Education	emphasizing its educational and cultural significance in promoting art education and cultural awareness		

5.3 The Diversified Stages of Immersive New Media Art with Educational Implications.

Dalian installation art has evolved over the years, spanning from the late 1990s to the early 21st century. This period has brought forth new avenues of artistic expression and educational significance. The artists in Dalian have placed greater emphasis on individual artistic expression and innovative experimentation, pushing the boundaries of conventional art through diverse media and forms. Notable examples include Wei Dong, who used multimedia, installation, and video to express his musings on life, love, and the passage of time. Some artists also integrated various media, such as painting, sculpture, installation, and video, to craft diverse and distinctive visual experiences.

The artists have also explored a wider array of themes, encompassing aspects of society, human nature, the environment, history, and more. Their exploration of contemporary social issues continued to deepen, encompassing topics such as urbanization, environmental degradation, and the intricate interplay between humanity and nature. Some artists delved into personal themes, including traditional culture, historical memory, and individual emotions. This diversification added layers of meaning and significance to the installation art pieces. Notable examples include Zhang Dali's works "Red" and "Black," which convey reflections on contemporary societal realities and human nature.

Interaction and participation have become priorities for installation artists during this phase. They encourage viewers to actively engage with and interact with the artworks, using technological means to make them integral participants in the artistic creation. An illustrative example of this emphasis is Zhang Jianming's work "Leaping Over," which features a suspended balance beam that challenges the audience to cross a high obstacle.

Site adaptation and social participation have also been important aspects of Dalian installation art. Artists have begun to pay greater attention to the relationship between their artworks and exhibition sites, striving to harmonize them with specific spatial environments. Some installation pieces found homes in public spaces, urban locales, natural landscapes, and more, integrating art with daily life. Additionally, installation artists have participated in societal projects, advocating for social causes, and engaging in community initiatives.

In the diversification phase, Dalian installation artists embarked on cross-border collaborations with artists and scholars from diverse fields, merging various art forms and disciplines to craft interdisciplinary artworks. They also actively participated in international art exchanges, fostering connections and dialogues with international installation artists, thereby integrating Dalian's installation art into the global art landscape.

During this stage, installation artists have also embraced art promotion and education. They assumed teaching

roles in universities and colleges, nurturing the next generation of installation artists. They actively organized events such as art lectures, workshops, and exhibitions to disseminate knowledge about installation art to the public, enhancing societal awareness and understanding of the art form.

In summary, the diversified stages of Dalian installation art have made it dynamic, creative, and uniquely impactful, solidifying its position as a distinctive force within Chinese contemporary art with considerable educational value.

5.4 The Educational Value of Contemporary Immersive New Media Art in Urban Commercial Space.

Chinese contemporary art has seen a transformative evolution in installation art, becoming a creative and multimedia-integrated mode of expression. The ever-evolving information technology landscape has fueled this evolution and contributed to the creation of new media installations in the Chinese art scene. Artists have explored the status and future educational potential of new media installation art within urban commercial spaces in Dalian, adapting their design techniques to suit diverse urban commercial environments.

The immersive industry in China can be categorized into three distinctive stages: the first, spanning from 2005 to 2011, marked a period of pioneering exploration during the "Eleventh Five-Year Plan," focusing on exploring new display technologies and human-computer interaction within immersive contexts; the second phase, spanning 2011 to 2015, saw the nascent emergence of the immersive industry, with national support through science and technology initiatives fostering core technologies, including interactive art, immersive interactive experiences, and immersive performance space design.

In Dalian's urban commercial spaces, the roots of new media art trace back to the early 21st century, signifying the contemporary stage. The Dalian Municipal Government introduced the "culture + technology" development strategy, encouraging the fusion of culture and technology to foster the growth of the city's cultural and creative industries. Immersive new media installation art emerged as an integral part of this strategy, offering a fresh educational and commercial experience.

On the contemporary stage, artists in Dalian's installation art continued to develop, converging with contemporary art trends. They began to employ technology and digital art elements, creating digital installation artworks that emphasized pressing contemporary societal issues such as urbanization, environmental pollution, and technological advancement. Artists placed greater emphasis on diversifying artistic forms, merging traditional craftsmanship with modern technology to create unique educational works of art.

This study delves into the Xiongdong Street project, situated on the periphery of Dalian's municipal commercial center. This project prominently features new media installation art, particularly the "Giant Bear North," which is the brainchild of the renowned high-tech cultural and tourism project creative design company, Botao Culture. Botao Culture, a strategic investment entity affiliated with CYTS and a trailblazer in China's high-tech cultural and travel industry, has reimagined Dalian Xiongdong Street as a pioneering cultural, business, and tourism complex.

The vision for this complex is to establish itself as a significant landmark in China's cultural, commercial, and travel sectors. By seamlessly integrating a single mechanical giant and aligning with the evolving trends in cultural tourism consumption, Botao Culture has revitalized Dalian Bingshan Huigu, thereby birthing a dynamic and captivating destination that holds great promise for educational exploration within the realm of immersive new media art.



Figure 2. Dalian Xiongdong Street installation art "Giant Bear Beibei"

Source: Liu Maoxin, 2023.

In conclusion, the development of new media installation art in China has evolved over time, with artists exploring various aspects of the art scene, incorporating technology and digital elements, and fostering global engagement. Contemporary Dalian installation art reflects environmental conservation and sustainable development, incorporating recycled materials and repurposed items to highlight the importance of conserving and protecting natural resources.

6. Discussion and Conclusions

The growing influence of immersive new media installation art in urban commercial spaces has marked the profound transformation of art in recent years. This transformation aligns with the changing landscape of urban commercial spaces, which have evolved from traditional retail environments to multifaceted cultural and aesthetic hubs. Our research aimed to explore the educational potential of immersive new media installation art within this context, shedding light on its impact on education and society.

Consistent with the theoretical principles outlined in the introduction, immersive art experiences have emerged as a dynamic and multifaceted form of artistic expression (Brigante, 2019). These experiences prioritize audience engagement, interactivity, and communication, offering individuals a unique and profound emotional encounter within crafted environments (Li, 2021). Our findings align with these principles, as we observed that immersive new media installation art in Dalian has evolved to encompass diverse themes, including urbanization, environmental issues, and the interplay between humanity and nature. Artists have used technology and digital

elements to create interactive and participatory artworks, fostering deeper connections between art and the audience.

Moreover, the integration of art into urban commercial spaces has been consistent with the concept of creating shared and popular external spaces for citizens, as discussed in the literature review (Gehl, 2007; Mandeli, 2019). Urban public spaces, including commercial complexes, play a vital role in shaping urban culture and enhancing the cultural accomplishments of residents (Li, 2022). Our research underscores the significance of public art, cultural symbols, and the evolving nature of commercial complexes in shaping urban culture and identity.

The research methods employed in this study, including field research, surveys, observations, interviews, and focus group discussions, were consistent with the qualitative research methodology used to investigate the utilization of immersive new media installation art within Dalian's urban commercial landscape. The data collection process was comprehensive, allowing for a thorough exploration of the subject matter.

The research results highlighted the historical development of immersive new media installation art in Dalian, emphasizing its impact on education, societal issues, and artistic innovation. Artists in Dalian's installation art scene have actively contributed to art education, fostering interdisciplinary collaborations, and promoting art awareness among the public. The Xiongdong Street project serves as a significant example of how immersive new media installation art can be integrated into urban commercial spaces to create dynamic and captivating destinations

In conclusion, our research findings are consistent with the theoretical principles outlined in the introduction and the literature review. Immersive new media installation art has indeed evolved as a dynamic and multifaceted form of artistic expression within Dalian's urban commercial spaces, aligning with the principles of audience engagement, interactivity, and the creation of shared urban spaces. This evolution has had a profound educational impact, fostering interdisciplinary collaborations, promoting art education, and enhancing societal awareness of art's potential to engage and inspire.

As the realms of art and technology continue to converge, immersive new media installation art is poised to play an even more significant role in urban commercial spaces, shaping cultural landscapes and enriching the educational experiences of the public. It is imperative that stakeholders in the fields of art, culture, and urban development continue to support and nurture the growth of this transformative art form to maximize its educational potential and cultural impact.

Acknowledgments

Not applicable.

Authors' contributions

Not applicable.

Funding

Not applicable.

Competing interests

Not applicable.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Canadian Center of Science and Education.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

References

- Biggin, R. (2017). *Immersive Theatre and Audience Experience*. Basingstoke: Palgrave Macmillan. https://doi.org/10.1007/978-3-319-62039-8
- Brigante, R. (2019). *Interactive, Intimate, Experiential: The Impact of Immersive Design. Editor Noah Nelson, with additional contributions by Kathryn Yu and Rachel Stoll.* San Francisco: Immersive Design Summit.
- Chandler, D. (2022). Semiotics: the basics. Routledge. https://doi.org/10.4324/9781003155744
- Gehl, J. (2007). Public spaces for a changing public life. In *Open space: People space* (vol. 2, pp. 3–11).
- Konečni, V. J. (2015). Emotion in painting and art installations. *The American Journal of Psychology*, *128*(3), 305–322. https://doi.org/10.5406/amerjpsyc.128.3.0305
- Li, G. (2021). Analysis of Immersive Experience in Interaction Design—Taking TEAMLAB BORDERLESS Digital Art Museum as an Example. Design.
- Li, L. (2022). Research on art design of new media interactive installations in commercial complexes. Master's thesis. Beijing University of Civil Engineering and Architecture.
- Li, W., Zhu, J., Dang, P., Wu, J., Zhang, J., Fu, L., & Zhu, Q. (2023). Immersive virtual reality as a tool to improve bridge teaching communication. *Expert Systems with Applications*, 217, 119502. https://doi.org/10.1016/j.eswa.2023.119502
- Macve, R. (2020). Perspectives from mainland China, Hong Kong and the UK on the development of China's auditing firms: implications and a research agenda. *Accounting and Business Research*, 50(7), 641–692. https://doi.org/10.1080/00014788.2020.1736494
- Madlener, R., & Sunak, Y. (2011). Impacts of urbanization on urban structures and energy demand: What can we learn for urban energy planning and urbanization management? *Sustainable Cities and Society*, *I*(1), 45–53. https://doi.org/10.1016/j.scs.2010.08.006
- Mandeli, K. (2019). Public space and the challenge of urban transformation in cities of emerging economies: Jeddah case study. *Cities*, *95*, 102409. https://doi.org/10.1016/j.cities.2019.102409
- McGuire, S. (2011). The Media City: Media, Architecture and Urban Space. London: Sage.
- Pine, B. J., & Gilmore, J. H. (2011). The experience economy. Harvard Business Press.
- Popoli, Z., & Derda, I. (2021). Developing experiences: Creative process behind the design and production of immersive exhibitions. *Museum Management and Curatorship*, 36(4), 384–402. https://doi.org/10.1080/09647775.2021.1909491
- Ren, J. (2019). A Brief Analysis of the Immersive Experience and Interaction Design of teamLab Borderless New Media Art Exhibition. Collection.
- Smith, P. H. (2018). The body of the artisan: Art and experience in the scientific revolution. University of Chicago Press.
- Stetz, A. R. (2022). Strangers Become Collaborators: An Interdisciplinary Analysis of the Disruptive Artwork of teamLab. Doctoral dissertation, Harvard University.
- Su, M. (2017). Research on Visual Symbols of Public Art in Urban Commercial Space. Master's thesis, Tianjin University of Technology.
- Wang, C., Tang, Y., Kassem, M. A., Li, H., & Hua, B. (2022). Application of VR technology in civil engineering education. *Computer Applications in Engineering Education*, 30(2), 335–348. https://doi.org/10.1002/cae.22458
- Yu, Y., Gao, Y., & Song, B. (2022). A Study on the Presentation of Immersive Mobile Live Stream Cultural Landscape from the Perspective of Computer-Mediated Communication. In *2022 International Conference on Culture-Oriented Science and Technology* (CoST) (pp. 364–368). IEEE. https://doi.org/10.1109/CoST57098.2022.00081

Copyrights

Copyright for this article is retained by the author, with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/).