

Exploring the Integration Path of New Media Art and Interdisciplinary Design from the Perspective of Visual Culture

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Abstract

In the era of media dominated by visual culture, the characteristics of new media art with technology as the carrier and visual expression as the core naturally fit with the interdisciplinary nature of design. Visual culture not only reshapes the audience's perception and aesthetic logic, but also promotes the deep interweaving of new media art and design, technology, humanities and other disciplines, becoming an important driving force for breaking disciplinary barriers and promoting innovative practices. This article takes visual culture as a theoretical perspective, based on the interdisciplinary nature of new media art and the development needs of interdisciplinary design. Through literature research, interdisciplinary research, and industry practice, it explores the practical reasons, core contradictions, and practical paths for the integration of the two. Research has found that the integration of the two requires a visual cultural aesthetic consensus as the basis, building a triple mechanism of technological collaboration, aesthetic collaboration, and disciplinary collaboration, and improving the guarantee system through educational reform, industry collaboration, and policy support. This integration not only expands the boundaries and application scenarios of new media art expression, but also injects cultural connotations and innovative vitality into interdisciplinary design, ultimately promoting the high-quality development of the design industry and the diversified upgrading of cultural dissemination. The purpose of this study is to provide theoretical references for the integration of the two in practice, and to provide reference ideas for academic research and industry applications in related fields.

Keywords

Visual culture, new media art, interdisciplinary design, integration path, design innovation.

1. Introduction

The rapid development of digital technology in the 21st century has propelled human society into a stage dominated by visual culture. Visual symbols such as images and videos have become the core carriers of information dissemination and cultural expression, profoundly changing people's cognition, aesthetics, and lives. The rise of visual culture not only reconstructs the logic of cultural production and dissemination, but also requires cross-border integration of artistic creation and design practice. New media art, as a combination of digital technology and art, revolves around interactive and immersive visual expression, breaking the boundaries of traditional art and possessing interdisciplinary genes; Interdisciplinary design emphasizes breaking down the barriers between design, art, engineering, and other disciplines, and solving complex problems through knowledge integration, making the two naturally compatible [1].

The integration of the two has become an industry trend: digital technology iteration (virtual reality, artificial intelligence, etc.) provides technical support, the market's demand for

personalized and immersive design products is growing, and single technology or disciplinary design is difficult to meet the needs. Although the academic field focuses on the cross-border attributes of the two, it often focuses on technological applications or single cases, lacking a systematic review centered on visual culture. The research on the internal logic and guarantee mechanism of integration needs to be further explored.

On a theoretical level, this article takes visual culture as a starting point to explore the integration path, which can enrich relevant theories and construct an integration framework; On a practical level, it can provide reference for the design industry and educational institutions, and promote the high-quality development of the cultural and creative industry. This article adopts the methods of literature research, interdisciplinary research, and industry practice to lay a theoretical foundation and analyze the logic of integration. The main body of the paper will explore the essence of interdisciplinary research, the reasons and challenges of integration, the path and guarantee mechanism, and ultimately form a conclusion.

2. The connotation of visual culture and the interdisciplinary nature of new media art

Visual culture, as the dominant cultural form, uses visual symbols as the core carrier of cultural production, dissemination, and reception. Humans perceive information, construct cognition, and communicate emotions through visual perception far beyond other senses. Scholar Guy Debord proposed in "Landscape Society" that modern society is a "pile up of landscapes", where visual images no longer reflect reality but are the core force in constructing it. Digital technology promotes the interactive, real-time, and diversified presentation of visual culture, with images and videos permeating various fields of society, forming a cultural ecology where "everyone is a visual producer and consumer". The rise of visual culture not only changes the way culture is disseminated, but also reshapes aesthetic standards - audiences are no longer satisfied with passively accepting static visual products, but instead pursue immersive, participatory, and personalized experiences, providing an aesthetic foundation for the integration of the two [2].

New media art is a representative art form of the visual culture era, essentially integrating digital technology with artistic creation, and possessing interdisciplinary attributes. Its creation relies on three core supports: first, artistic aesthetics, which includes traditional cores such as visual modeling, color matching, and emotional transmission, and is its cultural soul; The second is computer technology support, such as digital modeling, interactive programming VR、AR、 Artificial intelligence is the foundation of innovative expression; The third is the value orientation of communication and sociology. New media art triggers reflection on social phenomena through visual interaction, and communication refers to cross group communication.

The interdisciplinary practice of new media art is reflected in diverse creative forms: interactive art combines sensors, programming, and art design to achieve real-time interaction between the audience and the work, feedback into the work, and integration of multiple disciplines; Digital image art integrates literary narrative, visual aesthetics, and digital technology through film and television shooting, post production editing, and digital special effects; Data visualization art is a cross-border product of statistics, computer science, and visual design, which visualizes abstract data while balancing accuracy and infectiousness.

The interdisciplinary nature of new media art is also reflected in its application extension, from art exhibitions and commercial advertising to public space design and education, breaking the traditional art "ivory tower" and intersecting multiple fields. This infiltration builds a natural bridge for its integration with interdisciplinary design - new media art provides innovative visual expression and technology, while interdisciplinary design provides a broad scene,

forming a fusion relationship of "art as the body, technology as the use, and design as the bridge".

3. The Realistic Motivation and Value Dimension of the Integration of New Media Art and Interdisciplinary Design

The integration of new media art and interdisciplinary design is not accidental, but the inevitable result of the combined effects of technological development, market demand, cultural dissemination, and other factors in the era of visual culture. It contains diverse values and has significant implications for artistic creation, design practice, and cultural development. Technological innovation is the core driving force. The iteration of digital technology provides a unified technical foundation for the integration of the two, facilitating interdisciplinary knowledge integration: artificial intelligence enables design software to automatically generate visual elements that conform to aesthetic laws, and algorithmic art can be directly applied to product and spatial design; VR/AR technology breaks the boundary between virtual and reality, allowing the immersive experience of new media art to be combined with architecture, exhibitions, and industrial design, creating results that combine artistic sensibility and practicality. At the same time, the popularity of the Internet and mobile terminals has lowered the threshold for the spread of visual products and promoted the satisfaction of their two-way needs.

The upgrading of market demand is directly guided. In the consumer market dominated by visual culture, the audience's demand has shifted from simple functional satisfaction to a comprehensive demand of "function+aesthetics+experience" [3]. In the field of culture and tourism, traditional landscape design is difficult to attract young audiences. The "Digital Palace Museum" project of the Forbidden City transforms cultural relics into interactive visual products through 3D modeling and VR technology, integrating multiple disciplines such as architectural design and cultural relic protection to confirm market demand; In the field of commercial advertising, interactive advertising and dynamic visual advertising use new media art to evoke emotional resonance, and behind it is the cross-border collaboration of advertising design, digital art, and communication studies.

The demand for cultural dissemination innovation is a deep-seated driving force. In the era of visual culture, new media art has become a carrier of cultural dissemination through diverse visual forms, and interdisciplinary design can integrate cultural connotations into products to achieve life oriented dissemination. Suzhou embroidery preserves traditional patterns through digital scanning, and after reconstruction by new media art, it is applied by design disciplines to clothing and home design, solving the problem of the disconnect between tradition and modernity in intangible cultural heritage, and helping to revitalize traditional culture and promote contemporary cultural dissemination.

In terms of value dimension, the integration of the two achieves a triple unity of aesthetic, functional, and cultural values: breaking the limitations of traditional design in aesthetics, avoiding the "emphasis on form over practicality" of new media art in functionality, and inheriting culture and enhancing cultural identity through visual symbol innovation in culture, with both industry and social cultural significance.

4. The core contradiction and practical dilemma of fusion from the perspective of visual culture

Although the integration of new media art and interdisciplinary design has favorable conditions and diverse values, in reality, it still faces core contradictions and difficulties due to disciplinary

barriers, technological differences, aesthetic differences, etc., and requires targeted solutions from a visual cultural perspective.

The balance between technology and art is the core challenge. Integration cannot be separated from technological support, but the "instrumental rationality" of technology and the "value rationality" of art are prone to conflict: some interdisciplinary designs excessively pursue technological coolness, using VR, AR, and artificial intelligence as gimmicks, ignoring aesthetic and cultural connotations, and products have "technology but no soul"; Some new media art falls into the misconception of "emphasizing art over practicality", emphasizing individuality and experimentation, neglecting functionality and user experience, and making it difficult to implement. This imbalance stems from a misunderstanding of the core of visual culture, and the industry lacks a sense of balance between the two.

The knowledge integration dilemma caused by disciplinary barriers is the main obstacle. Integration involves multiple disciplines, with significant differences in knowledge systems, ways of thinking, and evaluation criteria: universities have long implemented "subject based teaching", with art students lacking technical skills, computer students lacking aesthetic and design thinking, design students having shallow understanding of new media art, interdisciplinary courses and talent cultivation systems lagging behind, and a shortage of composite talents; In industry practice, communication barriers exist among practitioners from different backgrounds, lacking a unified context and collaborative mechanism, making it easy for them to "speak their own words" and integration only involves overlapping forms.

The innovation dilemma caused by the homogenization of visual culture constrains the realization of value. Visual symbols spread quickly, leading to homogenization of visual expression: many projects follow popular styles and lack cultural connotations and personality exploration, resulting in a uniform visual effect [4]. Some urban public space interaction designs simply copy foreign cases, ignoring local culture and urban spirit; Some new media art exhibitions overly rely on digital special effects, lack attention to social conference topics, and lack depth and uniqueness in their works, making it difficult to meet the individual needs of the audience.

The lack of industry standards and uneven resource allocation affect sustainable development. There is currently no unified evaluation standard in the field of integration, and project quality varies, even leading to "pseudo integration" - only incorporating new media art elements in form, without achieving true interdisciplinary integration. In terms of resource allocation, large enterprises and first tier cities have sufficient technology, funding, and talent to carry out high-quality projects; Small and medium-sized enterprises and second - and third tier cities lack resources, making it difficult for them to participate in deep integration and hindering the popularization of the model.

5. Construction of Integration Path: Triple Collaboration of Technology, Aesthetics, and Disciplines

In response to the contradiction between the integration of new media art and interdisciplinary design, combined with visual cultural characteristics, a triple path of "technical collaboration, aesthetic collaboration, and disciplinary collaboration" is constructed to achieve deep integration and value upgrading.

5.1. Technical Collaboration: Building an Interdisciplinary Technology Sharing Platform

Technological collaboration is the foundation of integration, with the core of breaking down technological barriers and integrating resources. On the one hand, promoting the popularization and standardization of technology tools: for digital modeling, interactive

programming, VR/AR, etc., industry alliances with universities and enterprises have lowered the threshold for standardization, such as developing simple interactive tools for creators to use and promoting the integration of universal formats; On the other hand, establish a technology cooperation network: encourage technology enterprises, art institutions, and design companies to share equipment, achievements, and talents. Technology enterprises and art institutions cooperate to use AI and big data for creation, while design companies collaborate with university laboratories to tackle research and development, making technology a bridge of integration.

5.2. Aesthetic Collaboration: Establishing an Aesthetic Consensus Guided by Visual Culture

Aesthetic synergy is the core of integration, which requires establishing interdisciplinary aesthetic consensus based on visual cultural needs and unifying art and design aesthetics. Aesthetic consensus includes three dimensions: "participatory aesthetics" emphasizes interaction, where the audience participates in the construction of visual products through actions and sounds; Cultural aesthetics "excavates traditional, regional, or contemporary cultural elements and transforms them into contemporary visual symbols; Personalized aesthetics provide diverse experiences. The implementation path is to establish an interdisciplinary aesthetic communication mechanism, regularly discuss and unify the context, study visual cultural trends and audience psychology, and conduct research to adjust the direction to meet the needs.

5.3. Discipline Collaboration: Building an Interdisciplinary Talent Training and Collaboration Mechanism

Discipline collaboration is the key to integration, with the core being to break down disciplinary barriers and establish mechanisms for talent cultivation and industry collaboration [5]. In terms of talent cultivation, universities optimize their courses (adding digital technology, design thinking, etc. to art majors), offer interdisciplinary majors using "project-based teaching", and link industries to introduce practical projects to enhance practical skills; In terms of industry collaboration, clarify the responsibilities of art, technology, and design teams, establish efficient communication mechanisms, establish interdisciplinary associations to establish standards, and improve project quality.

Triple collaboration and mutual support: technological collaboration provides material foundation, aesthetic collaboration clarifies value orientation, disciplinary collaboration ensures talent and mechanism, and the combination of the three can solve the pain points of integration. The project combines technological innovation, aesthetic appeal, and practicality.

6. The guarantee mechanism and development trend of integrated practice

The deep integration of new media art and interdisciplinary design requires clear path guidance and improved guarantee mechanisms, while grasping the development trend of the visual culture era and promoting the upgrading of integration practices. The guarantee mechanism is constructed from three levels: education, industry, and policy, and the development trend is based on technological innovation and cultural demand prediction.

6.1. Establish a comprehensive guarantee mechanism to support integrated sustainable development

The core of education is to reform the talent cultivation system: universities establish flexible credit and interdisciplinary course selection mechanisms, strengthen the construction of composite teachers, broaden teachers' knowledge fields through training, jointly build

internship bases with enterprises, achieve the integration of "industry university research", and solve the shortage of composite talents from the source.

At the industry level, it is necessary to establish a standardized collaboration system and evaluation standards: industry associations take the lead in organizing experts to develop multidimensional quantitative evaluation standards such as technical feasibility and aesthetic value, build interdisciplinary talent exchange platforms, encourage enterprises to increase research and development investment, establish innovation funds, and stimulate industry innovation vitality.

At the policy level, we will focus on strengthening guidance and support: integrating integration into the development plan of cultural and creative industries, introducing supportive policies such as funding subsidies and tax incentives, improving the intellectual property protection system, promoting international exchanges and cooperation, introducing advanced experience, and supporting domestic projects to "go global" and enhance international influence.

6.2. Grasp the development trend and promote the upgrading of integrated practice

Integration will present three major trends: firstly, intelligent integration, AI、Big data and IoT technology promote the intelligence and personalization of projects, achieving automatic optimization of visual elements, precise analysis of user preferences, and linkage between virtual and reality, promoting the upgrade of integration from formal integration to intelligent driven value integration [6]; The second is ecological integration, breaking through the limitations of single projects and fields, forming cross industry ecosystems such as cultural tourism, education, and urban construction, optimizing resource allocation, and demonstrating the value of social development; The third is cultural integration, focusing on deep exploration and innovative dissemination of cultural connotations, breaking through the accumulation of symbols, and realizing the dynamic inheritance of culture through art and design, becoming an important carrier of cultural dissemination and innovation.

7. Conclusion

The rise of visual culture provides a historical background and aesthetic foundation for the integration of new media art and interdisciplinary design. The integration of the two is an inevitable requirement for technological development, market demand, and cultural communication innovation. This article takes visual culture as a perspective and systematically explores the integration path of the two. The core conclusions are as follows:

Firstly, the interdisciplinary nature of new media art naturally aligns with the cross disciplinary characteristics of interdisciplinary design within the framework of visual culture. The emphasis on interactivity, cultural significance, and personalized visual experience in visual culture provides direction and demand orientation for their creation and innovation, and the integration has a solid theoretical foundation and practical feasibility.

Secondly, the integration of the two faces challenges such as technological and artistic imbalance, disciplinary barriers, aesthetic homogenization, and lack of industry standards. Essentially, it is due to insufficient integration of interdisciplinary knowledge, lack of aesthetic consensus, and imperfect guarantee mechanisms, which need to be resolved through systematic paths and mechanisms.

Thirdly, the triple path of "technological collaboration, aesthetic collaboration, and disciplinary collaboration" is the core of deep integration. Technological collaboration builds the material foundation, aesthetic collaboration establishes value orientation, disciplinary collaboration provides talent and mechanism support, and the combination of the three achieves deep integration of technology, art, and design.

Fourthly, the integration of sustainable development requires comprehensive support from education, industry, and policies, while grasping the trends of intelligence, ecology, and culture. By reforming talent cultivation, establishing industry standards, and providing policy support, relying on technological embrace, ecological construction, and cultural exploration to promote upgrading, we aim to achieve the unity of the three values.

The integration of the two is an important path for design innovation and cultural development in the era of visual culture, which can expand application scenarios and expression boundaries, and promote the high-quality development of the cultural and creative industry. In the future, we can focus on specific industry integration practices or strengthen research on issues such as intellectual property and ethical norms to provide more comprehensive support for the healthy development of integration.

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