Teaching Practice of Spatial Narrative in Environmental Art Design from an Interdisciplinary Perspective

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ABSTRACT Spatial narrative teaching in environmental art design is an important method for cultivating students' comprehensive design ability. Conducting spatial narrative teaching from an interdisciplinary perspective is significant for improving interdisciplinary thinking, narrative expression, and teaching-model innovation. However, current teaching practice still faces problems such as weak spatial narrative awareness among students, fragmented teaching content, insufficient interdisciplinary integration, and limited diversity in practical methods, which restrict the improvement of teaching quality. This paper analyzes the significance and existing problems of spatial narrative teaching in environmental art design from an interdisciplinary perspective. It then proposes reform strategies from three aspects: strengthening narrative thinking cultivation, constructing an interdisciplinary teaching system, and promoting project-driven practical exploration. By introducing narratology, case analysis, cross-media thinking, curriculum integration, interdisciplinary teaching resources, and real-world project training, the study provides an operable teaching framework for enhancing students' spatial storytelling, emotional expression, and integrated design competence.

INDEX TERMS interdisciplinary integration, environmental art design, spatial narrative, teaching practice, project-driven teaching

I. INTRODUCTION

ENVIRONMENTAL art design, as a highly interdisciplinary field, requires students to integrate and apply interdisciplinary knowledge by merging spatial aesthetics with the functional properties and sustainable innovations of materials. This synthesis empowers designers to utilize advanced fiber structures and weaving techniques to enhance the acoustic, thermal, and visual quality of built environments. Spatial narrative is a crucial concept in environmental art design; it uses spatial language to tell stories, convey emotions, and create atmosphere—an essential skill for designers. However, current teaching of spatial narrative in environmental art design suffers from several shortcomings. Disciplinary barriers are significant, teaching methods are traditional, and these methods fail to meet the demands of the new era for multiskilled design professionals. Exploring new approaches to spatial narrative teaching by integrating the tactile storytelling of arts with literature, drama, and film is of great practical significance for cultivating design talent capable of weaving cultural depth into architectural environments. Reforming these teaching models ensures that students leverage the expressive potential of fiber and fabric to enhance the psychological resonance and qualitative complexity of modern spatial design.

II. THE SIGNIFICANCE OF TEACHING SPATIAL NARRATIVE IN ENVIRONMENTAL ART DESIGN FROM AN INTERDISCIPLINARY PERSPECTIVE

A. CULTIVATING STUDENTS' INTERDISCIPLINARY THINKING AND COMPREHENSIVE DESIGN ABILITIES

Spatial narrative is a method of interdisciplinary design thinking, which requires knowledge from disciplines such as architecture, psychology, literature, and drama. Teaching spatial narrative from an interdisciplinary perspective can break through the barriers between disciplines and encourage students to view design issues from all aspects [1]. Students need to know how to use spatial construction and materials, as well as understand narrative structure and emotional expression. This interdisciplinary synthesis facilitates a higher level of conceptual complexity, expanding the student's cognitive schema beyond mere functionalism to encompass sophisticated spatial performance. What they learn transcends basic technical proficiency, evolving into an integrated mastery of spatial semiotics and architectural narrative [2].

B. ENHANCE THE NARRATIVE EXPRESSION AND EMOTIONAL TRANSMISSION CAPABILITIES OF SPATIAL DESIGN

Space is a carrier of emotions and a container of culture. While functionalism addresses the physical needs of the occupant, spatial narrative teaching uses the language of spatial sequence, material texture, and light and shadow changes to tell stories and convey emotions. This approach complements traditional humanistic care by adding a layer of "meaning-making," ensuring the environment supports not just the body, but the user's sense of identity and history [3]. Interdisciplinary integration provides rich theoretical support, and spatial plots are created by referring to the theory of literary narrative structure, and spatial sequence is planned by using the method of dramatic scene transformation. After systematic training, students can grasp the expressive role of spatial language, enabling their design outcomes to possess profound phenomenological resonance and semiotic depth [4].

C. PROMOTE THE INNOVATIVE DEVELOPMENT OF ENVIRONMENTAL ART DESIGN TEACHING MODELS

Traditional teaching focuses on skills training and formal aesthetics, with closed content and single methods. Spatial narrative teaching under the perspective of interdisciplinary integration emphasizes openness, comprehensiveness and practicality, integrates resources from multiple disciplines, and creates a teaching model that is problem-oriented and project-based [5]. This model is conducive to the integration of theory, practice, art and technology, and plays an important role in improving the quality of talent training, providing a new idea for teaching innovation [6].

III. PROBLEMS IN TEACHING SPATIAL NARRATIVE IN ENVIRONMENTAL ART DESIGN

In order to systematically present the current problems in teaching and the corresponding reform strategies, this paper establishes the framework shown in Figure 1. The problems exposed by current teaching practices have multi-level and multi-dimensional characteristics, as shown in Table 1 below.

A. SYSTEMIC CURRICULAR FRAGMENTATION AND THE RESULTING WEAKNESS IN SPATIAL NARRATIVE AWARENESS

Students majoring in environmental art design lack awareness of spatial narrative. This deficiency often stems from a lack of foundational training in artistic storytelling and a curriculum heavily weighted toward technical proficiency rather than conceptual depth. When designing, they only focus on functional layout and aesthetic form, as traditional architectural theory often prioritizes utilitarian efficiency over narrative logic. Consequently, students ignore spatial narrative and emotional expression, viewing space as a static container rather than a dynamic medium for storytelling. Students do not understand the concept of spatial narrative and do not know how to use spatial language to tell stories, convey emotions, and create atmosphere. The spatial sequence of the design works lacks logical continuity, the spatial transitions are very abrupt, and a complete narrative chain cannot be formed [7]. Students' spatial narrative expression ability is very weak. They cannot use design elements such as materials, colors, light and shadow, and symbols to construct narrative situations. Their works lack affective qualities and symbolic significance, remaining limited to superficial formal aesthetics rather than achieving narrative immersion. While these designs may fulfill basic functional requirements of humanistic care—such as accessibility and ergonomic comfort—they often fail to provide the "narrative humanistic care" found in psychological belonging and cultural identity. Consequently, they cannot reach the level of emotional resonance and deep-seated cultural empathy required by contemporary design, which relies on storytelling to bridge the gap between physical utility and the user's inner emotional world [8].

B. FRAGMENTED TEACHING CONTENT LACKS INTERDISCIPLINARY INTEGRATION

The teaching of spatial narrative in environmental art design involves many disciplines such as architecture, literature, drama, psychology, and semiotics, and it is necessary to create a systematic interdisciplinary knowledge system. This fragmentation represents a fundamental failure to bridge the gap between theory and the "inherently interdisciplinary" requirements of the profession. At present, the teaching content is fragmented, and the knowledge of each discipline exists in isolation without organic integration. This lack of structural synthesis is the primary driver behind the "weak awareness" identified in students; without a unified framework, students perceive interdisciplinary knowledge as elective trivia rather than the core logic of spatial storytelling. Teachers only pay attention to the transmission of their own professional knowledge and rarely introduce theories and methods from other disciplines. Even when interdisciplinary content is involved, it is only superficial and no systematic knowledge link is formed [9]. In terms of curriculum setting, courses such as spatial design, narrative theory, and psychology are independent and lack internal connection and mutual cooperation. Students establish an interdisciplinary knowledge structure through the integration of these courses. The degree of integration of teaching resources is low, and there is a lack of interdisciplinary textbooks, cases, and teaching platforms, which is not conducive to carrying out interdisciplinary teaching and cannot promote the development of students' interdisciplinary comprehensive abilities [10].

C. THE PRACTICAL TEACHING METHODS ARE MONOTONOUS AND LACK INNOVATION

Spatial narrative ability needs to be trained and improved through practice, but the existing teaching methods are monotonous and lack innovation. Most teachers use tra-

TABLE 1. Main Problems and Characteristics of Spatial Narrative Teaching in Environmental Art Design

Problem Dimensions	Core Issues	Main Manifestations	Impact And Consequences
Student ability level	Weak awareness of spatial narrative	Focusing solely on functional layout and aesthetic appeal; heavy reliance on traditional architectural formulas that marginalize narrative; lack of early-stage training in artistic semiotics and literary structure.	The design works lack psychological resonance; while functional, they struggle to achieve narrative-driven humanistic care and deep cultural empathy.
Teaching content level	Insufficient interdisciplinary integration	Knowledge from different disciplines exists in isolation; courses are set up independently; and teaching resources lack systematic integration.	Students struggle to build interdisciplinary knowledge networks and develop systematic spatial narrative thinking.
Teaching methods	Single practical method	The teaching method is mainly based on theoretical instruction; practical exercises are mostly imitative; teaching methods are monotonous; and evaluation methods focus on results.	Difficulty in stimulating innovative thinking hinders the improvement of spatial narrative teaching quality.

FIGURE 1. Framework Diagnosis and Reform Strategies for Spatial Narrative Teaching from an Interdisciplinary Perspective

ditional lecture-style teaching methods, mainly imparting knowledge, and students passively accept knowledge, lacking the process of active exploration and practical experience. The practical teaching link is weak. Even if there is design training, it is mostly imitative and repetitive exercises, lacking real situations and comprehensive challenges, and cannot stimulate innovative thinking. The teaching methods are monotonous. There are few interactive teaching methods such as scenario simulation, role-playing, and case study. The classroom atmosphere is dull and the students' participation is low [11]. Project teaching is just a formality. The topics are divorced from reality, without problem orientation or interdisciplinary integration. The evaluation methods are monotonous, emphasizing result evaluation and neglecting process evaluation, which is not conducive to the cultivation of innovative ability and practical ability, and seriously affects the improvement of teaching quality [12].

IV. SPATIAL NARRATIVE TEACHING PRACTICE STRATEGIES FROM AN INTERDISCIPLINARY PERSPECTIVE

A. CULTIVATING NARRATIVE THINKING: STRENGTHENING SPATIAL STORY CONSTRUCTION TRAINING

Developing spatial narrative thinking has become a primary task in teaching. Systematic training enables students to acquire narrative awareness and master narrative methods. The cultivation of narrative thinking should follow a progressive training logic to form a systematic training system, as shown in Table 2.

First, use narratology theory to explain the most basic concepts such as narrative structure, plot design, character portrayal, and conflict description, so that students can understand the rules of narration. Second, conduct spatial narrative case analysis, select excellent spatial design works, and let students interpret the narrative clues, emotional expression and atmosphere creation in them, so as to understand the essence of spatial narrative in the process of case study. Furthermore, organize narrative thinking training, and strengthen students' ability to construct spatial stories using narrative techniques through special exercises such as storyboard drawing, spatial script creation and narrative path planning. Also, guide students to use cross-media narrative methods, learn from the narrative methods in literature, film and drama in scene creation and express them in spatial language, and use cross-domain learning to expand their thinking horizons [13]. Through multi-level and progressive training, students will internalize narrative thinking and shape a design thinking mode guided by narrative [14].

B. INTERDISCIPLINARY RESOURCE INTEGRATION: CONSTRUCTING A DIVERSE AND INTEGRATED TEACHING SYSTEM

Interdisciplinary resource integration is a factor in improving the quality of spatial narrative teaching. Systematic integration of interdisciplinary resources should be approached from multiple aspects; specific integration plans are shown in Table 3.

First, we need to optimize the curriculum system, break down the barriers between disciplines, and organically integrate courses such as literary theory, drama art, psychology, and semiotics into the curriculum system of environmental art design major to form an interdisciplinary course group and provide theoretical support for spatial narrative teaching. Second, we need to develop interdisciplinary teaching resources, compile textbooks containing knowledge from multiple disciplines, and establish a case library containing a variety of resources such as literary works, drama scripts, film clips, and psychological research to provide rich materials for teaching. Third, we need to form an interdisciplinary teaching team, invite scholars from various disciplines such as literature, drama, and psychology to participate, and use collaborative teaching and joint guidance to make education cross-integrated from different perspectives. We also need to build an interdisciplinary exchange platform, carry out various academic lectures between teachers of different majors, between teachers and students, or between students, and promote the integration of ideas between teachers and students from different backgrounds outside a certain professional field. Through systematic resource integration, we can establish a multi-dimensional integrated teaching system to support spatial narrative teaching [15].

C. PROJECT-DRIVEN PRACTICE: INNOVATIVE MULTI-DIMENSIONAL TEACHING METHODS

Based on the concept of interdisciplinary integration, this paper constructs a progressive cultivation path for spatial narrative ability using projects as carriers, as shown in Figure 2.

Project-driven learning is an effective way to cultivate students' spatial narrative abilities. Innovative teaching methods and comprehensive practical projects are essential. First, select authentic design tasks with rich narrative potential, such as cultural spaces, commemorative spaces, and themed exhibitions, as scenarios for narrative practice. Second, adopt a problem-oriented approach, setting clear narrative goals and design challenges within the project. This allows students to conduct research and analysis, conceptualize, and develop in-depth solutions based on the narrative theme, strengthening their narrative abilities in the process of problem-solving. Third, utilize diverse methods such as scenario-based teaching, case studies, flipped classrooms, and workshops. Starting from the perspective of experiencing the space as a user and exploring the charm of spatial narrative, guide students to actively participate and think deeply through group discussions and creative brainstorming. Simultaneously, establish a process-oriented evaluation mechanism, emphasizing students' performance at each stage of the project. Evaluation should cover aspects such as narrative conception, application of interdisciplinary knowledge, and innovation. To ensure objectivity, interdisciplinary experts and industry mentors shall employ a dual-weighted assessment matrix that balances "Functional-Technical Logic" (50%) with "Narrative-Cultural Resonance" (50%). These experts should be invited to participate in the review process, providing feedback based on standardized qualitative rubrics—such as the "Narrative Cohesion Index," which measures the alignment between spatial sequence and the intended story arc—and quantitative metrics, including user-path efficiency versus thematic immersion levels. By using projects as a vehicle, teaching practices can be carried out from multiple perspectives to improve students' comprehensive spatial narrative abilities.

TABLE 2. Phased Training System for Cultivating Spatial Narrative Ability

Training Stage	Training Focus	Specific Methods	Evaluation Criteria
Theoretical cognition stage	Narratology Foundation Theory	Instructing concepts such as narrative structure, plot setting, and character development.	Understand the basic principles of narrative and master the core concepts
Case Study Phase	Interpretation of outstanding works	Analyzing narrative threads, emotional expression, and atmosphere creation in spatial design	Able to accurately identify and interpret spatial narrative techniques
Specialized training phase	Narrative Skill Enhancement	Storyboard drawing, spatial script creation, narrative path planning	Skillfully using narrative techniques to construct spatial stories
Cross-border expansion stage	Cross-media narrative thinking	Drawing on techniques from literature, film, and drama, and transforming them into spatial language	Developing diversified narrative expression capabilities
Comprehensive Practice Phase	Real-world project applications	Practical projects such as cultural spaces, memorial spaces, and themed exhibitions.	Applying narrative thinking flexibly in practical design

TABLE 3. Scheme for Integrating Interdisciplinary Spatial Narrative Teaching Resources

Integration Dimensions	Integrated content	Implementation path	Expected Results
Curriculum System Integration	Courses include literary theory, dramatic arts, psychology, and semiotics.	Breaking down disciplinary barriers and building interdisciplinary curriculum clusters	Provide systematic theoretical support for spatial narrative teaching
Integration of teaching resources	Literary works, play scripts, film clips, psychological research, etc.	Compile integrated teaching materials and build a diverse case library	Enrich teaching materials and broaden students' horizons
Teacher team integration	Experts and scholars in literature, drama, psychology and other fields	Form interdisciplinary teaching teams and carry out collaborative teaching	Achieving cross-disciplinary integration
Communication platform integration	Interdisciplinary workshops, academic lectures, and joint evaluations	Build an interdisciplinary exchange platform to promote knowledge sharing	Stimulate intellectual exchange and deepen interdisciplinary understanding

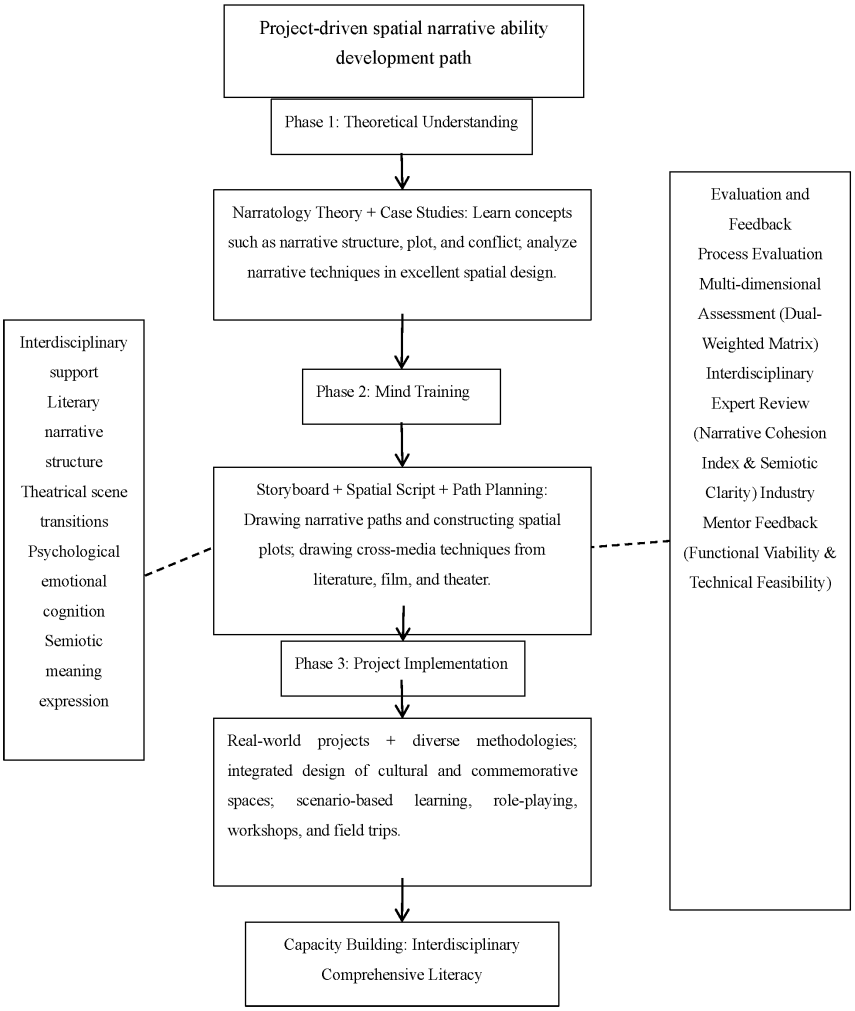

FIGURE 2. Project-Driven Spatial Narrative Competency Development Pathway

V. CONCLUSION

Interdisciplinary integration in environmental art design spatial narrative teaching is an inevitable choice for cultivating design talents who can seamlessly blend the structural versatility of materials with spatial aesthetics to create immersive environments. This approach ensures that future designers master the fusion of fiber arts and architectural narratives to meet the evolving demands of modern interior and public space design. To address issues such as a lack of narrative awareness, fragmented content, and simplistic methodologies, a systematic teaching system should be created by strengthening narrative thinking, integrating interdisciplinary resources, and conducting project-driven practice. Teaching practice should be student-centered, emphasizing the integration of theoretical knowledge with practice, and highlighting the cultivation of application skills and innovative thinking. Only by continuously promoting teaching reform can we improve students' spatial narrative abilities and interdisciplinary literacy, ensuring they can effectively integrate the textural and structural innovations of the industry into modern environmental art design. This evolution in education cultivates high-quality design talents who possess the innovative spirit to redefine spatial experiences through the creative application of advanced fiber arts and technical fabrics.

AUTHOR CONTRIBUTIONS

Conceptualization – Xiaoyan MA, Yuying WANG and Xinru MU; methodology – Xiaoyan MA, Yuying WANG and Xinru MU; investigation – Xiaoyan MA, Yuying WANG and Xinru MU; writing-original draft preparation – Xiaoyan MA, Yuying WANG and Xinru MU. All authors have read and agreed to the published version of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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