

The Study on an Innovative Model of Plant Art Therapy Based on Multidisciplinary Collaboration

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Abstract: This study, based on the theory of industry–education integration, takes the “Horticultural Therapy + Wellness Services” practice at Suqian University as its research object. Employing a combination of case analysis and field investigation, it systematically explores innovative models through which universities empower the development of the plant art wellness industry across disciplinary boundaries. The research finds that by establishing a three-dimensional empowerment mechanism of “interdisciplinary integration – platform co-construction – service output,” universities can effectively integrate resources from horticulture, psychology, design, and other disciplines, thereby promoting the localized application and industrial development of plant art therapy. The study further constructs an empowerment model that incorporates talent cultivation, technological innovation, and cultural inheritance, providing a replicable practical path for universities to contribute to the Healthy China strategy.

Keywords: University Empowerment; Plant Art; Wellness Industry; Interdisciplinary Integration; Industry–Education Integration

1. Introduction

Against the backdrop of the deep implementation of the “Healthy China 2030” strategy, China’s wellness industry has entered a period of rapid growth. According to data from the State Taxation Administration, in the first half of 2025, industries related to the silver economy experienced remarkable growth: sales revenue of elderly and disabled care services increased by 40.9% year-on-year, production of elderly-friendly fitness equipment rose by 14.7%, and smart elderly care technology services grew by 33.7% [1]. Market research projects that by 2025, the scale of China’s wellness industry will surpass 10 trillion yuan,

becoming a key driver of the national economy [2].

Plant art therapy, as an innovative intervention model combining natural therapy and art therapy, has shown unique value in fields such as mental health, improving cognitive impairment in the elderly, and providing auxiliary treatment for children with autism [3]. Practices at institutions such as Jiangsu Urban Construction Vocational College have demonstrated that plant art therapy can effectively promote emotional expression and enhance social skills in special-needs children [4]. However, the current development of the industry still faces three major bottlenecks:

Shortage of professionals: The training system for interdisciplinary horticultural therapists remains underdeveloped, and university curricula are not yet well aligned with industry needs.

Lack of technical standards: There are no unified norms for efficacy evaluation and service processes, hindering large-scale industry development.

Service homogenization: Most projects remain at the level of traditional horticultural activities, without fully integrating artistic expression, digital technology, and other innovative elements.

As the core body of knowledge innovation, universities hold unique advantages in addressing these challenges. On the one hand, their multidisciplinary resources (e.g., horticulture, psychology, design) can support technological R&D and the establishment of standards. On the other hand, industry–education integration platforms (such as the “Life and Health Industry–Education Alliance” initiated by Dalian Art College) can better align talent cultivation with industry needs [5]. Exploring effective pathways for universities to empower across boundaries is not only crucial for the sustainable development of the plant art wellness industry, but also an important practice in advancing the Healthy China

strategy and serving an actively aging society.

2. Literature Review

2.1 Basic Progress in Research on Plant Art Wellness

With the continuous advancement of the “Healthy China” strategy, plant art, as a comprehensive practice integrating natural aesthetics and mind–body healing functions, has gradually attracted attention from both academia and practice. Existing studies have primarily focused on the positive effects of plant art forms—such as horticultural therapy, flower arrangement, and pressed-flower art—on emotional regulation, psychological rehabilitation, and cognitive improvement. For example, Zhang Huasheng pointed out that flower arrangement practice has significant therapeutic effects on emotional regulation in the elderly [6]; Li Xiaomei based on a community case study, examined the social empowerment function of pressed-flower art among special groups [7].

Although the positive therapeutic effects of plant art have been supported by some empirical studies, most of the literature remains within a single-disciplinary perspective and lacks systematic interdisciplinary research. Moreover, plant art therapy models have yet to establish clear intervention standards and evaluation systems, which limits their broader application in fields such as education, wellness, and community services.

2.2 Current Research on Industry–Education Integration and University Empowerment

Industry–education integration, as an important pathway for universities to serve society and empower regional industries, has already yielded certain results in fields such as healthcare and wellness, rural revitalization, and cultural creativity. Some universities, for example, have established “wellness training bases” and “art therapy workshops” to integrate educational resources with local social needs, achieving notable demonstration effects [8]

However, in the emerging interdisciplinary field of plant art wellness, research on how universities can systematically embed themselves and promote model innovation remains scarce. At present, there is still a lack of in-depth analysis of university empowerment mechanisms in areas such as platform

construction, curriculum design, and service delivery.

2.3 Application of the Multidisciplinary Collaboration Perspective in Related Fields

In recent years, “multidisciplinary collaboration” has become an important research perspective in fields such as education, healthcare, and social governance. It emphasizes the integration of knowledge from different disciplines to address complex social issues. In the study of plant art wellness, horticulture provides the foundational knowledge of plants, psychology supports efficacy analysis, aesthetics contributes artistic forms, and pedagogy focuses on practical pathways and social promotion—together offering a natural potential for multidisciplinary integration [9].

However, according to the existing literature, studies that truly achieve deep multidisciplinary integration remain relatively scarce. Most are still at the preliminary stage of “multidisciplinary juxtaposition” rather than “interdisciplinary integration,” lacking a unified theoretical framework and systematic research methods.

2.4 Research Positioning

In conclusion, current research exhibits significant gaps in several key areas: theoretically, there is a lack of systematic multidisciplinary integration models; practically, collaborative innovation pathways for academic involvement in the horticultural art therapy and wellness industry remain underdeveloped; methodologically, studies predominantly rely on single-discipline qualitative approaches with insufficient mixed-methods support; and technically, standardized therapeutic efficacy evaluation systems are notably absent.

3. Research Design and Methodology

3.1 Research Subjects and Scope

This study takes Suqian University's “Horticultural Therapy + Wellness Services” program as its core research subject. The program integrates multidisciplinary resources from horticulture, art, design, education, and psychology at Suqian University to establish a comprehensive plant-based art therapy platform that combines teaching, practice, and service delivery. The platform includes various forms

such as floral arrangement, pressed flower art, horticultural experience courses, and wellness craft workshops, providing therapeutic activities for elderly populations, special needs groups, and university students.

The selection of this case demonstrates strong representativeness and practical value for the following reasons:

(1) It exemplifies the typical industry-education integration model in higher education, reflecting the current trend of local universities empowering regional wellness industries;

(2) It features diverse practice forms involving multiple key dimensions including interdisciplinary collaboration, university-community partnerships, and industrial transformation;

(3) The program has achieved considerable scale of operation, accumulating substantial empirical data and establishing a solid participant base, thereby providing feasible conditions for evidence-based research.

Therefore, while focusing on Suqian University as the primary case, this study incorporates both cross-sectional investigation and longitudinal tracking to extract universal "University + Wellness" innovation models.

3.2 Research Methods

This study adopts a mixed-methods approach to establish effective connections between theoretical construction and practical analysis. The specific methodologies include:

(1) Case Study Method

Through in-depth analysis of Suqian University's horticultural art therapy program, we systematically examine its organizational structure, operational mechanisms, service content, and performance feedback to provide authentic contextual support for subsequent model development.

(2) Field Investigation Method

The research team conducted on-site observations in classroom settings, wellness activity spaces, partner communities, and senior care centers to document the implementation process of horticultural art therapy activities. Firsthand data and user feedback were collected to enhance the study's contextual relevance and practical connections.

(3) Expert Interview Method

Interviews were conducted with horticulture specialists, art education instructors, wellness institution administrators, and local

policymakers to obtain professional insights on interdisciplinary collaboration, policy support, and service evaluation, thereby enriching the depth of qualitative data.

(4) Questionnaire Survey Method

Structured questionnaires were distributed to beneficiary groups (e.g., elderly participants, student volunteers, and course attendees) to collect data on user satisfaction, therapeutic experiences, and cognitive changes, quantitatively validating intervention outcomes. By integrating qualitative and quantitative analysis, this study achieves a systematic description and empirical validation of "university-empowered horticultural art therapy."

3.3 Data Sources Description

The data sources for this study primarily consist of the following four aspects:

(1) Project Materials and Literature Data:

Includes design proposals, activity records, course lesson plans, and policy documents from Suqian College's wellness service projects, as well as Chinese and English literature from academic databases, used for theoretical construction and background analysis.

(2) Field Observation and Interview Materials:

Comprises participatory observation notes, photographic images, activity process records, expert interview recordings, and transcribed texts, providing on-site support for qualitative analysis.

(3) Questionnaire Survey Data:

Approximately 150 questionnaires were distributed, with 120 valid responses collected, covering multiple levels such as elderly groups, student participants, and community wellness cooperation institutions. The questionnaire design employed Likert scales, and the data will subsequently be analyzed using SPSS for descriptive statistics and cross-analysis.

(4) Secondary Statistical Data and Policy Materials:

Incorporates government-released reports on wellness service development, the current status of horticultural therapy promotion, and employment statistics, among others, to support the analysis in the policy recommendations and social value assessment sections.

4. Analysis of University Cross-Boundary Empowerment Model for Plant Art Wellness

4.1 Model Elements

In promoting the development of plant art wellness, universities need to establish a multi-dimensional cross-boundary integration model, with the following core elements:

(1) Interdisciplinary Integration

Leveraging theories and methods from horticulture, art, medicine, psychology, sociology, and other disciplines to form an integrated "science + art + wellness" research and practice framework. Through curriculum design, research projects, and practical activities, academic resources are consolidated to strengthen the theoretical foundation of plant art wellness.

(2) Collaborative Platform Development

Establishing university-local cooperative platforms, including research centers, practice bases, and experience centers for plant art wellness. Combining online and offline approaches, these platforms serve as open hubs for knowledge dissemination, outcome exhibition, and social services, facilitating resource sharing and long-term collaboration.

(3) Service Delivery

Translating academic research and educational resources into practical wellness services, such as horticultural therapy courses, plant art healing workshops, community wellness activities, and digital science communication resources. This enables a systematic transition from knowledge accumulation to societal value creation [10].

4.2 Stakeholder Participation and Collaborative Mechanisms

The effective operation of this model requires the collaborative participation of multiple stakeholders:

Universities: As the core of knowledge innovation and talent cultivation, responsible for providing disciplinary support, scientific research achievements, and professional talents.

Government: Provides policy guidance, financial support and public resources to promote the integration of plant art wellness into the social health service system.

Enterprises: Play a role in wellness product R&D, horticultural therapy space design and market promotion to achieve technology transfer and industrialization.

Communities: Serve as implementation sites for services, functioning both as demand generators and practical beneficiaries/feedback providers,

ensuring close alignment between the model and real social needs.

Collaborative mechanisms are realized through policy support, project cooperation and resource sharing, promoting cross-sectoral coordination and sustainable development.

4.3 Model Logic: The Transformation Pathway from "Educational Resources" to "Wellness Services"

The model's logic can be summarized as a "three-stage" transformation process:

(1) Educational Resource Accumulation Stage:

Develops systematic knowledge and skills through courses, research, and practical training
Builds academic reserves in plant art wellness disciplines

(2) Intermediary Transformation Stage:

Leverages interdisciplinary integration and university-community platforms
Converts academic achievements into concrete wellness projects and service solutions

(3) Service Implementation Stage:

Delivers plant art wellness services to target populations through community and enterprise channels

Establishes feedback loops for continuous optimization

Achieves health promotion and co-creation of social value

4.4 Case Study: Implementation Pathway of Suqian College

Suqian College has conducted multidimensional explorations in plant art wellness, establishing a comprehensive practice pathway encompassing curriculum development, platform construction, social services, and feedback optimization. This provides a replicable model for universities to empower wellness initiatives through cross-disciplinary approaches.

(1) Interdisciplinary Integration – Cross-Convergence of Knowledge and Methods

Suqian College promotes interdisciplinary collaboration in plant art wellness through curriculum systems and research projects.

Curriculum Development:

Established courses such as Plant Healing Arts and Aesthetic Labor Practice, building upon disciplines including horticulture, art, psychology, medicine, and sociology.

Research-Driven Innovation:

Organized faculty-student teams to conduct cross-disciplinary research on the mechanisms

of plant art in psychological adjustment, emotional improvement, and physical wellness.

Talent Cultivation:

Emphasized theory-practice integration, fostering interdisciplinary talents proficient in both artistic design and wellness knowledge.

(2) **Platform Construction – Synergistic Carriers for Industry-Academia-Research Collaboration**
To ensure service implementation and sustainability, Suqian College developed multi-level practice and research platforms.

Research & Practice Center:

Founded the Plant Art Wellness Research and Practice Center as a hub for academic research, teaching, and social services.

University-Community Collaboration:

Partnered with local governments and community institutions to establish wellness experience bases catering to diverse age groups.

Open Sharing:

Promoted plant art wellness concepts through online resource platforms and offline experiential spaces, enhancing public awareness.

(3) **Service Implementation – Diversified Wellness Programs**

Suqian College designed and implemented serialized wellness programs for different demographics.

Floral Therapy Workshops:

Conducted community and campus workshops to alleviate stress and enhance aesthetic experiences through floral arrangements.

Horticultural Wellness Activities:

Launched community gardening initiatives to advocate green lifestyles and foster social interaction.

Senior Wellness Programs:

Implemented Green Healing for Seniors, using light horticultural activities to improve physical/mental health and social engagement.

Industry-Academia-Research Integration:

Collaborated with enterprises to develop wellness-oriented cultural products and therapeutic gardening tools, translating research into real-world applications.

(4) **Feedback Optimization – Data-Driven Continuous Improvement**

Suqian College prioritized service evaluation and feedback, forming a practice-assessment-improvement cycle.

Data Collection:

Systematically gathered participant feedback via surveys, psychological scales, and interviews to track mental health, emotional

state, and life satisfaction changes.

Impact Evaluation:

Combined quantitative and qualitative analyses to assess therapeutic effects and social value.

Iterative Refinement:

Adjusted curricula and service models based on feedback, gradually standardizing a replicable wellness service framework.

(5) **Comprehensive Outcomes**

Suqian College's initiatives not only enhanced students' academic competencies and social responsibility but also cultivated a wellness-conscious community environment. This model demonstrates a virtuous cycle from educational resources → social wellness services → sustainable feedback, offering a scalable blueprint for universities to advance wellness causes.

5. Research Conclusions and Recommendations

5.1 Model Summary: A Replicable

Innovation Framework for "University-Empowered Wellness Services"

This study constructed and validated an innovative model using Suqian College as a case study. The model achieves effective transformation from educational resources to wellness services through three core elements (interdisciplinary integration, collaborative platform development, and service delivery) and multi-stakeholder coordination among universities, government, enterprises, and communities.

Key findings demonstrate the model's distinctive characteristics:

Systematicity: Encompasses a complete chain of education, research, service implementation and feedback mechanisms

Synergistic: Establishes complementary resource integration through multi-stakeholder collaboration

Replicability: Demonstrates transfer potential to other institutions and regions with flexible social applications

5.2 Theoretical Contribution: Validation of Interdisciplinary Integration Pathways

Advancements in Horticultural Art Therapy

This study enriches the theoretical system of horticultural art therapy through three key contributions:

Validation of Interdisciplinary Integration

Pathways

Demonstrates how the organic combination of horticulture, arts, psychology, and sociology collectively contributes to physical and mental health improvement.

Development of Educational Resource Transformation Theory

Reveals the logical pathway through which academic resources are converted into wellness services via intermediary platforms, bridging the research gap between "academic knowledge - practical application - social services."

Construction of a Therapeutic Evaluation Framework

Establishes a scientific quantification method for assessing horticultural art therapy outcomes through tri-dimensional metrics (psychological, physiological, and social dimensions).

5.3 Practical Recommendations

Based on research findings, this study proposes the following implementation strategies at multiple levels:

(1) For Higher Education Institutions

- Incorporate horticultural art therapy into talent development programs to cultivate interdisciplinary professionals
- Establish wellness research and service centers to integrate scientific research, teaching, and community engagement
- Promote "campus-community" partnerships to expand service coverage and enhance social impact

(2) For Local Governments

- Include horticultural art therapy in the "Healthy China" and "Cultural-Wellness Integration" strategies with supportive policies and funding
- Develop wellness practice bases in both urban and rural communities to promote equitable access
- Encourage participation from social organizations and enterprises to form "industry-academia-research-application" collaborative mechanisms

(3) For Enterprises and Communities

- Enterprises should actively engage in product development and service innovation to explore emerging wellness markets
- Communities should implement customized programs based on resident needs to enhance well-being and social cohesion

5.4 Limitations and Future Research

Directions

While this study has achieved significant findings, several limitations should be acknowledged:

(1) Sample and Scope Limitations

The empirical research primarily focused on Suqian University and its surrounding communities, lacking large-scale, cross-regional data support.

(2) Standardization Challenges

The horticultural art therapy program currently lacks unified industry standards in curriculum design, implementation protocols, and outcome evaluation.

(3) Unverified Long-term Effects

Existing data mainly reflects short-term intervention results, with insufficient longitudinal tracking and sustained efficacy verification.

6. Future Research and Practice should Focus on the Following Directions

(1) Expanding research scope: Promote this model in more universities and communities to accumulate multi-regional and diverse sample empirical data.

(2) Advancing standardization: Develop implementation guidelines and evaluation standards for horticultural art therapy to enhance service comparability and accessibility.

(3) Developing digital and intelligent tools: Utilize big data, artificial intelligence and wearable devices to achieve personalized and dynamic wellness interventions and assessments.

(4) Strengthening international comparative studies: Compare with foreign horticultural therapy and art healing models to incorporate global experience and improve the model's international applicability.

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