

Research on the Training Mode of the Master of Landscape Architecture Based on Community Participatory Design

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Abstract Focusing on the community participatory design training model, this study developed a five-dimensional competency matrix and reformulated the training objectives around the concept of “value co-creation”. Three types of curriculum systems were designed, and diverse collaborative teaching methodologies were introduced. Furthermore, a multi-teacher integration mechanism was established, along with an evaluation system characterized by “multi-subject co-assessment, multi-dimensional competency indicators, and a combination of process and outcome evaluation”. These efforts collectively aim to address the inadequacies in fostering social participation competencies within traditional educational frameworks.

Keywords Landscape architecture, Community participatory design, Professional master education, Cultivation mode

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Against the backdrop of rapid urbanization, landscape architecture design has transitioned from the traditional spatial shaping to a practical model that emphasizes social participation and community empowerment, thereby providing critical technical support for the implementation of community development policies and action plans^[1]. Community participatory design, as a design approach that emphasizes multi-party collaboration and respects local needs, is increasingly regarded as an essential dimension in the competency development of Master of Landscape Architecture (MLA) education... Completing design education based on the approach of social participation is a teaching method “from service to learning”. It is inherently derived from practice and serves practice. Through social participation, students learn to identify real-world problems independently and develop solutions by analyzing them. The practical significance of this approach substantially surpasses that of design thinking cultivated through virtual projects in conventional design courses^[2]. At present, MLA education in China still prioritizes technical and aesthetic training, while theoretical grounding and practical guidance related to community participation remain underdeveloped. As a result, students often lack effective communication skills, public coordination abilities, and a sense of social responsibility when facing real-world community projects. Participatory design is not only a design strategy but also a key to promoting educational innovation and community development^[3]. Therefore, exploring

a community participatory design education model that suits the Chinese context and aligns with the MLA training objectives is of great significance for enhancing the practical value of design education and promoting the sustainable development of urban and rural spaces.

1 Current situation of community participatory design training in the education of MLA at home and abroad

1.1 Domestic situation

In recent years, some courses or practical projects related to community participatory design have been gradually added for domestic universities' MLA. For instance, the participatory community space micro-updating course at Tongji University enables students to connect with residents' demands in the design of community gardens and rural landscapes, and cultivate their ability to solve local problems. Some universities are also exploring interdisciplinary cooperation with disciplines such as sociology and urban and rural planning, providing students with diverse perspectives and broadening their design thinking. However, the overall curriculum system is still not mature.

1.2 Foreign situation

The community participatory design curriculum system for the landscape architecture specialty in foreign universities is mature and diverse, covering undergraduate and master's levels. For example, the Wright Valley Service Learning curriculum at Cornell University in the United States has evolved from landscape

archaeology courses to design courses focusing on cultural landscapes, forming a mature teaching model. The course emphasizes service learning and social responsibility, and can cultivate students' service awareness by closely aligning with community needs. For instance, the night market course at the University of Washington requires students to balance design tasks with the actual interests of residents. In addition, international cooperation and exchanges are frequent, and students can participate in projects with different cultural backgrounds, such as the University of Washington's Hope Park project in Guatemala, thereby broadening their international horizons and enhancing their cross-cultural collaboration skills.

1.3 Comparative analysis

There are many differences between domestic and foreign landscape architecture majors in community participatory design education. The curriculum system is more mature and systematic abroad, with complete course content, teaching methods, and evaluation standards. Although domestic exploration and improvement have been continuous, the curriculum design is not standardized and unified enough, and the connection and coherence need to be strengthened. In terms of the depth and breadth of practice, overseas practice projects are rich and diverse, can provide more opportunities, and cover different regions, cultures and social issues. The number and diversity of domestic practical projects are insufficient, and the scope of students' practical activities is relatively narrow. In terms of interdisciplinary cooperation,

foreign universities have engaged in in-depth and extensive collaboration, and a sound mechanism has been established. Although it has been actively promoted domestically, it is still in its infancy, and its depth and breadth need to be expanded. In terms of educational concepts, foreign countries emphasize students' autonomy and creativity, and focus on cultivating a sense of social responsibility and citizenship. Although domestic concepts are changing, the intensity of cultivation is still relatively small and needs to be strengthened.

2 Five-dimensional capability matrix of the community participatory design model

The five core dimensions of community participatory design practice ability are shown in Table 1. A "people-centered" ability matrix is built. The five dimensions empower each other, emphasizing not only the role transformation of designers from "professional leading" to "value co-creation" but also the integration of sociological, anthropological and other methodological approaches into practice, and forming a closed-loop capability system of "demand identification-collaborative design-implementation feedback". These core elements are interrelated and mutually supportive, jointly forming an organic whole of participatory design practice capabilities.

3 Construction of the community participatory design education model for the master of landscape architecture

3.1 Reconstructing training objectives

Based on the requirements of national professional degree education, the service areas for the cultivation of master of landscape architecture are refined by taking community participatory design as a breakthrough point. By integrating industry practical experience and

addressing the demands of spatial governance and cultural inheritance in the development of urban and rural communities, the three-dimensional training objective of "social responsibility-professional ability-humanistic care" should be set up to make professional degree education more precisely serve the improvement of community environmental quality and residents' lives.

The reconstruction objective is to embed the concept of community participation on the basis of the traditional training objective of the landscape architecture professional degree, emphasizing the cultivation of professional talents who master the basic theories of the landscape architecture discipline and the laws of community development and possess the ability to participate in the entire process of "demand research-scheme co-creation-implementation feedback". By taking the needs of community residents as the orientation, the collaboration of multiple subjects is conducted to carry out practices such as the renewal of public spaces, ecological environment governance, and the revitalization of cultural heritage to promote the sustainable development of the community. It is needed to possess a sense of social responsibility, communication and coordination skills, apply design thinking to solve complex community problems, become a bridge connecting professional technology and people's livelihood needs, and contribute to the improvement of living environment quality in urban and rural areas.

The new goal strengthens the interactive relationship among "people, space, and society", takes the community as the core service scenario, and highlights the shift from "technology orientation" to "problem orientation + value orientation". The new goal has the advantage of meeting the demand for "refined governance" in the new type of urbanization and making up for the shortcomings of social participation

ability in traditional training. Meanwhile, it is needed to cultivate "down-to-earth" landscape designers and promote the in-depth integration of disciplines and social development.

3.2 Optimizing the curriculum system

Optimizing the curriculum system has become the core link in building a community participatory design training model. Interdisciplinary courses such as community research, participatory design methods, and basic sociology should be set up to integrate related teaching contents, so that students can receive systematic training in comprehensive community service skills^[1]. Courses on landscape laws and policies should be offered to cultivate students' policy sensitivity and their ability to analyze countermeasures^[9].

According to the different emphases of training objectives, three types of curriculum systems have been set up (Table 2). Schools with different backgrounds can choose them or make minor adjustments based on their actual situations.

3.3 Innovating teaching methods

In community participatory design teaching, students' practical ability is enhanced through the construction of diverse scenarios: real community renovation projects are introduced into case teaching to enable students to understand the logic of demand transformation through real problem-solving. Through role playing, by simulating various stakeholders such as the government, residents, and enterprises, the ability to communicate from multiple perspectives and resolve conflicts is cultivated. The workshop teaching is conducted to organize students and residents to collaborate on design, and realize the sharing of "design discourse power" through brainstorming, prototype making and other links. The integration of the three breaks the limitations of traditional classrooms, and builds a three-dimensional teaching method system of "practical

Table 1 Five-dimensional capability matrix

Core element	Core connotation
User demand insight ability	By means of multiple methods such as observation and scene research, it is necessary to accurately capture users' explicit and implicit demands, anchor the design towards real problems, and avoid subjective assumptions.
Collaborative communication ability	To establish a multi-subject collaborative dialogue, it is necessary to have the ability to clearly convey design concepts, listen to opinions and transform them into design inputs, and use visualization tools to assist communication.
Creative transformation ability	To transform demand insights and innovative thinking into practical design solutions, it is needed to balance innovation and practicality, and achieve the ability to transform from concepts to prototypes and then to complete solutions.
Critical thinking and problem-solving ability	In the face of complex design scenarios, it is needed to maintain a rational analysis and questioning spirit, and use problem decomposition, solution comparison, risk assessment and other methods to identify core contradictions and propose systematic solutions to make the outcomes possess both user value and practical adaptability.
Dynamic adaptation and iterative ability	In the dynamic process of participatory design, it is necessary to flexibly respond to changes in user needs, technological updates, or scene migrations to ensure that the design outcome evolves in tandem with actual requirements.

Table 2 Curriculum system of the community participatory training model

Type of curriculum systems	Core course module	Design of practical links	Elective extension module	Focus
Theoretical foundation orientation	Professional foundation: participatory design theory, principles of community space planning, design ethics and social responsibility General education: introduction to sociology, community psychology, analysis of public policies Core courses: research methods of community needs, stakeholder collaboration theory, and design research methodology	Case analysis workshop, interdisciplinary topics, and community field research	Tool courses: GIS spatial analysis, and data visualization technology Regulations and policies: environmental regulations and resource management	Emphasizing the theoretical construction and methodological foundation of community participatory design, and cultivating students' ability to systematically analyze community issues and construct theoretical frameworks, as well as talents suitable for academic research or policy design
Practical problem orientation	General education: communication skills and public speaking, community mobilization and organizational management Professional foundation: community space design practice, rapid design expression, materials and construction techniques Core courses: community design workshop, design of small community renovation projects, conflict mediation and consensus building techniques	Real community renovation projects and vocational skills	Tool courses: fundamentals of BIM modeling, and application of community building toolkit Regulations and policies: landscape planning and management	Centering on solving practical problems in the community, strengthening students' practical operation skills and on-the-spot adaptability, emphasizing "learning by doing", and cultivating practical design talents who can directly implement community projects
Reflective innovation orientation	General education: critical thinking training, and design philosophy Professional foundation: interdisciplinary design methodology, community participatory art, and construction of future community vision Core courses: design ethics reflection and social impact assessment, technological innovation in participatory design, and innovation in community sustainable development models	Interdisciplinary joint workshop Frontier exploration: application of smart community technology, community resilience design	Tool courses: user experience design, open source technology and community co-creation, community innovation experiment project Regulations and policies: economics of public planning and policies	Academic research: effect of participatory design, and quantitative evaluation method Focusing on the cutting-edge trends and value reflections of community participatory design, and cultivating compound design talents with a forward-looking vision

cognitionrole empathy-collaborative creation".

Case teaching takes real community projects as the carrier. In the teaching process, representative community projects are carefully selected, such as micro-renewal of urban old communities and landscape planning of demonstration villages for rural revitalization. Students are required to conduct field investigations and collect multi-dimensional data. Teachers guide students to connect with stakeholders such as community residents' committees and resident representatives, enabling students to understand that design is not only about space creation but also a systematic project that coordinates the demands of multiple parties. By directly confronting multiple contradictions, students' understanding of the operation of social systems is strengthened, and design plans are promoted to shift from paper concepts to implementable outcomes.

Role playing means that by simulating scenarios such as community planning hearings, students play different roles to engage in games and train their ability to balance diverse demands. Teachers provide role cards with professional backgrounds and interest demands to help students understand the differences in positions beyond the designer's perspective. After class, reflection reports are used to analyze cognitive blind spots and strengthen the understanding of social equity, so as to enable students to predict diverse needs in the future and avoid

the predicament of design being divorced from reality.

Workshops build a multi-party collaborative platform for co-construction and co-governance between universities and the local community^[7]. The teaching of workshops centers on "residents, namely designers", and through a participatory collaboration model, students visualize the needs of residents, integrate opinions to form plans, and provide feedback for revision. It has broken the model of "student leading and residents passively accepting" in traditional design education and established a collaborative relationship of equal dialogue. In the process of guiding residents to express their needs, students learn to draw design inspiration from the wisdom of residents' lives.

Three teaching methods form a complementary and symbiotic system: case teaching provides a real problem field, and role playing trains multiple communication skills, while workshops build an equal collaboration platform, all pointing towards the three-dimensional training goal of "social responsibility-professional ability-humanistic care".

3.4 Integrating the teaching staff

Experts from sociology and anthropology, along with community workers are introduced to form a joint mentor team. This collaboration establishes a three-dimensional guidance system of "academic theory-local knowledge-practical experience". In the specific teaching

implementation, the three types of mentors form a dynamic complementary relationship: sociological experts lead the early social diagnosis, while anthropologists are responsible for cultural decoding, and through participatory observation, the usage logic of informal space is explored. Community workers build a bridge for the transformation between professional discourse and residents' cognition. The three jointly promote the transformation of design education from "professional ability cultivation" to "participation in social processes".

3.5 Innovating evaluation system

The evaluation system of the training model of community participatory design needs to break through the single standard of traditional professional education, and build a three-dimensional evaluation framework, specifically including the following dimensions.

(1) A three-party evaluation subject of "industry mentors + community residents + interdisciplinary experts" is established: industry mentors focus on professional ability assessment and the technical feasibility of design plans; community resident representatives adopt "satisfaction questionnaires + participation tracking" to pay attention to whether the design responds to real needs; sociological and anthropological experts assess social value dimensions, including the degree of stakeholder empowerment and the validity of cultural inheritance.

(2) A three-level capability indicator system

is set up. Knowledge dimension: mastering community research tools, understanding the participatory design process, and having interdisciplinary theoretical reserves; capability dimensions: demand transformation ability, collaboration and communication ability, and dynamic iteration ability; quality dimensions: social responsibility, and ethical awareness.

(3) Process and outcome evaluation are combined. Process evaluation: recording the depth of community visits during the research stage, collaborative evidence during the design stage, and the implementation capability during the execution stage; outcome evaluation: a dual dimension of "quantitative + qualitative evaluation" is adopted, of which quantitative indicators include data on the improvement of community cohesion after project implementation and ecological benefit monitoring; qualitative indicators include the social impact of media reports and the number of reference and learning cases in similar communities. This evaluation system not only adheres to the core of the landscape architecture major but also integrates social value orientation.

4 Conclusion

Through the systematic construction of the community participatory design training model, this study demonstrates both the necessity and feasibility of integrating social demands into MLA education. The proposed five-dimensional competency matrix and three-dimensional training system not only address the urgent demand for "people-oriented" design professionals in the new urbanization, but also extend the social value of landscape architecture education through interdisciplinary integration and practice-driven innovation. In the future, long-term tracking research can be further deepened to verify the actual impact of the training model on students' career development. It is expected that this research can offer new perspectives for the transformation of landscape architecture education.

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