

Skill Adaptation and Cultural Inheritance: Exploration of AI Design Talent Training Paths under the Demand of Rural Revitalization

Yihao Hu¹, Zhijian Xiao¹, Shaoqiu Ma¹, Jin Chen²

¹ Zhejiang DongFang Polytechnic, Wenzhou, Zhejiang, 325000, China

² Zhejiang Nanfang Nippon Printing Co., Ltd., Wenzhou, Zhejiang, 325000, China

Abstract

In the process of advancing the rural revitalization strategy, scenarios such as the upgrading of local industries and the improvement of cultural tourism urgently demand interdisciplinary talents who "master AI design technology and understand local culture". Currently, AI design talent training faces the problems of "disconnection between skills and industries, and superficial cultural cognition", which are specifically manifested in misplaced training objectives, unbalanced curriculum systems, and a single training subject. To this end, it is necessary to construct a talent training system with the dual core of "skill adaptation + cultural inheritance". Through four major paths-constructing a targeted curriculum system, innovating practical teaching models, building a diversified collaborative platform, and improving evaluation and incentive mechanisms-we can realize the organic unity of technological empowerment and cultural rooting, and inject endogenous motivation for the integration of culture and technology into rural revitalization.

Keywords

Rural Revitalization; AI Design Talents; Talent Training; Skill Adaptation; Cultural Inheritance; Interdisciplinary Talents.

1. Introduction

The in-depth advancement of the rural revitalization strategy has injected strong momentum into the upgrading of local industries. Scenarios such as the innovation of local products, the improvement of rural cultural tourism, and the optimization of rural spaces have an increasingly urgent demand for interdisciplinary talents who are proficient in both AI design technology and local culture. At present, rural AI design talents are trapped in the dual predicament of "disconnection between skills and industries, and superficial cultural cognition". Constructing a talent training system with the dual core of "skill adaptation + cultural inheritance" has become a key path to solve the shortage of rural design talents and promote the creative transformation of local culture, thereby injecting endogenous motivation for the integration of culture and technology into rural revitalization. [1]

2. Dual Demands for AI Design Talents in Rural Revitalization

AI design talents in the context of rural revitalization need to meet both the practical skill needs of industries and the value needs of cultural inheritance, forming a competency structure of "technological empowerment + cultural rooting".

2.1. Skill Adaptation: Practical Demands of Rural Industries

The diversified scenarios of rural industries put forward precise and implementable requirements for AI design skills. Firstly, practical intelligent design skills: proficient in using AI generative design tools (such as Midjourney, Stable Diffusion), parametric modeling software (such as Grasshopper), and intelligent typesetting tools (such as Canva AI) to quickly generate design schemes for the shape, packaging, and cultural tourism IP of local products. Secondly, digital translation capabilities: deconstructing local cultural symbols (such as folk patterns and architectural textures) into digital parameters, establishing symbol databases, and realizing effective connection between cultural elements and AI design. Thirdly, implementation adaptation skills: understanding rural production processes (such as handcrafted pottery, bamboo weaving, and traditional printing), cost budget constraints, and logistics and transportation characteristics to ensure that AI design schemes can adapt to the rural reality of small-batch production and low-cost implementation. Fourthly, cross-scenario application capabilities: covering diverse rural design needs, including the packaging design of local products, the design of rural cultural tourism wayfinding systems, the optimization design of homestay spaces, and the e-commerce visual design of agricultural specialty products. [2]

2.2. Cultural Inheritance: Value Demands of Rural Revitalization

The core competitiveness of AI design lies in cultural empowerment, and talents need to possess profound local cultural literacy. Firstly, cultural identification and excavation capabilities: accurately identifying regionally distinctive cultural symbols (such as Qiang embroidery patterns, Hakka round house structures, and Miao silver jewelry craftsmanship), and exploring the historical connotations and folk meanings behind the symbols through field investigations and literature reviews. [3] Secondly, cultural translation and innovation capabilities: avoiding the superficial splicing of cultural symbols, combining traditional cultural genes with modern aesthetics and user needs, and realizing the creative transformation of culture through AI technology (such as transforming traditional paper-cut art into interactive packaging visual design). Thirdly, cultural communication awareness: understanding the communication logic of rural culture, so that design works can not only carry cultural memories but also adapt to new media communication scenarios, helping local culture enter a broader market. [4]

3. Current Mismatch Pain Points Between AI Design Talent Training and Rural Demands

Current AI design talent training mainly focuses on urban commercial scenarios, showing a significant disconnect from the needs of rural revitalization, which is mainly reflected in three dimensions:

3.1. Misplaced Training Objectives: Emphasizing Technology Over Culture, Lack of Rural Perspective

Existing talent training is mostly oriented towards urban commercial design, focusing on the instrumental application of AI technology while neglecting the cultivation of local cultural literacy. Although students can proficiently operate AI design software, they lack cognition of rural culture, resulting in design works that are "technologically advanced but culturally empty", which are difficult to meet the cultural demands of rural industries. At the same time, the training process lacks rural scenario cognition, and students do not understand rural production processes, consumption habits, and aesthetic preferences, leading to design schemes often being "incompatible with local conditions" (such as excessive pursuit of complex shapes leading to high production costs, which are inconsistent with the reality of rural small workshop production).

3.2. Unbalanced Curriculum System: Emphasizing Theory Over Practice, Lack of Implementation Orientation

The curriculum is mostly based on AI technology theories and design aesthetics principles, and practical courses are mostly carried out around virtual projects, lacking real connection with rural industries. On the one hand, cultural courses are absent, and there are no targeted courses such as local cultural excavation and folk symbol interpretation, resulting in students' weak cultural translation capabilities. On the other hand, practical courses are disconnected from rural production links, failing to involve the adaptation skills between AI design schemes and rural handicrafts and flexible production, leading to students' design works being "good-looking but impractical" and difficult to transform into actual productivity.

3.3. Single Training Subject: Insufficient University-Enterprise Collaboration, Lack of Resource Integration

Talent training is mostly led by universities alone, lacking in-depth collaboration with rural enterprises, intangible cultural heritage (ICH) workshops, and cultural tourism institutions. Universities have difficulty obtaining real needs and the latest dynamics of rural industries, resulting in lagging updates to curriculum content. The construction of rural practice bases is insufficient, and students lack practical opportunities for field investigations and on-site design, making it difficult to combine theoretical knowledge with rural reality. At the same time, external resources such as industry experts and ICH inheritors have not been fully integrated into teaching, leading to a "disconnection" between talent training and rural industrial needs.

4. Talent Training Paths with the Dual Core of "Skill Adaptation + Cultural Inheritance"

Guided by the needs of rural revitalization, we will build a talent training system of "university-led, government-enterprise collaboration, and practice empowerment" to realize the simultaneous improvement of technical skills and cultural literacy.

4.1. Construct a Targeted Curriculum System: Two-Way Integration of Technology and Culture

The curriculum system needs to break the fragmented state of "technology + culture" and form a three-dimensional structure of "basic modules + core modules + practical modules".

Basic Modules: Lay a solid foundation for AI design technology and cultural theories, offering courses such as "Practical Operation of AI Design Tools", "Fundamentals of Parametric Modeling", "Introduction to Local Culture", and "Interpretation of Folk Symbols" to enable students to master core AI design technologies and establish a basic understanding of local culture.

Core Modules: Focus on the skill and cultural integration needs of rural scenarios, offering courses such as "Digital Translation of Local Symbols", "AI Modeling Design of Rural Products", "Intelligent Design and Implementation of Rural Packaging", and "AI Creation of Rural Cultural Tourism IP" to targetedly cultivate students' design capabilities in specific rural scenarios.

Extended Modules: Supplement knowledge related to rural industries, offering courses such as "Fundamentals of Rural Production Processes", "Visual Marketing of Rural E-Commerce", and "Rural Cultural Tourism Planning" to improve the implementation adaptability and market transformation capabilities of students' design schemes.

4.2. Innovate Practical Teaching Models: Empowerment from Classrooms to Rural Fields

Taking practice as the link, we will open up the entire chain of "theoretical learning - field investigation - design creation - implementation transformation", allowing students to improve their abilities in real scenarios.

Field Investigation Practice: Establish long-term cooperation with rural areas, organize students to conduct on-site investigations in rural areas, learn traditional crafts from ICH inheritors, excavate regionally distinctive cultural symbols, establish personal cultural symbol databases, and transform research results into material foundations for AI design.

Project-Driven Teaching: Connect with the real needs of rural enterprises and ICH workshops, set up "Rural AI Design Project Workshops", and carry out teaching in a "real project, real practice" manner. For example, focusing on the bayberry industry in a certain rural area, guide students to design packaging schemes with both local cultural characteristics and market appeal through AI technology, and the schemes selected by enterprises can be directly put into production.

Interdisciplinary Collaborative Practice: Carry out interdisciplinary practical projects in conjunction with majors such as cultural industry management, rural planning, and e-commerce. For example, for rural cultural tourism scenic spots, the AI design major is responsible for the design of wayfinding systems and cultural and creative products, the rural planning major is responsible for space layout optimization, and the e-commerce major is responsible for marketing promotion, realizing an integrated practice of "design - implementation - promotion".

4.3. Build a Diversified Collaborative Platform: Integrate Resources to Form Training Synergy

Break the single training pattern led by universities, and construct a collaborative training platform of "universities + rural enterprises + ICH workshops + cultural tourism institutions" to achieve resource sharing and complementary advantages.

Co-Construct Practice Bases: Co-construct off-campus practice bases with key rural industrial clusters, ICH inheritance bases, and cultural tourism scenic spots to provide students with long-term and stable practice venues, allowing students to immersively understand rural production processes, cultural characteristics, and market needs.

Introduce External Mentors: Invite rural entrepreneurs, ICH inheritors, and senior AI design practitioners to serve as external mentors, integrating cutting-edge industry trends, practical experience, and cultural inheritance skills into teaching through special lectures, case sharing, and one-on-one guidance.

Co-Construct Customized Talent Classes: In response to the specific needs of rural industries, jointly set up customized talent classes with local governments and rural enterprises, clarify training standards and employment directions, and enable students to directly serve cooperative enterprises after graduation, realizing a closed loop of "enrollment - training - employment".

4.4. Improve Evaluation and Incentive Mechanisms: Optimize Training Quality Oriented by Demands

Establish a diversified evaluation system, break the traditional evaluation model of "emphasizing theory over practice", and highlight ability orientation and demand adaptability.

Diversification of Evaluation Subjects: Introduce university teachers, external mentors, and rural enterprise representatives to participate in evaluation together, assessing students'

works from multiple dimensions such as technical skills, cultural connotations, implementation feasibility, and market feedback.

Practicalization of Evaluation Content: Take the completion quality of real projects as the core evaluation indicator, including the accuracy of cultural symbol excavation, the innovation of AI design schemes, the adaptability to rural production, and the possibility of market transformation, replacing traditional theoretical examinations.

Marketization of Incentive Mechanisms: Establish a "Rural AI Design Innovation Fund" to reward outstanding design works, and promote the connection and transformation of outstanding works with rural enterprises, allowing students to gain a sense of achievement while enhancing their identification with and willingness to serve rural industries.

5. Conclusion

The in-depth advancement of rural revitalization has provided a broad space for AI design talents to display their abilities and put forward higher requirements for talent training. Constructing a talent training system with the dual core of "skill adaptation + cultural inheritance" is essentially to realize the organic unity of technological empowerment and cultural rooting-activating the modern value of local culture through AI technology, accurately replicating the details of traditional crafts with digital means, systematically revitalizing the stock of ICH resources, and scientifically optimizing rural spatial layout and public service design; endowing AI design with a unique soul through local culture, making design works not only full of the precision, efficiency, and innovative vitality of technology but also deeply carrying nostalgia memories, folk customs, and regional cultural genes, fundamentally avoiding the homogenization dilemma of thousands of villages having the same appearance, and making rural landscapes possess both modern texture and original charm. In the future, it is necessary to further strengthen the collaborative linkage between universities, governments, enterprises, and rural areas. Universities should focus on curriculum system innovation and practice platform construction, deeply integrating AI technology application, local cultural research, and design practice. Governments should improve policy support and resource integration mechanisms, build bridges for talent supply and demand docking, and optimize the rural entrepreneurship and employment environment. Enterprises should give play to their technological advantages and market-oriented roles, providing practical projects, technical support, and industrial transformation channels. Rural areas should take the initiative to release scenario needs, showcase their cultural heritage, and provide a vivid soil for talent practice, forming a close and positive interactive education synergy among the four parties. At the same time, continuously optimize the training model, extensively integrate various forms such as project-based teaching, field practice, and cross-field joint training, and strengthen talents' problem-solving abilities and cultural empathy. Let more AI design talents who understand both technical algorithms and cultural connotations, and are proficient in both innovative design and rural needs, take the initiative to participate in rural revitalization practices. These talents will become key bridges connecting technology and rural areas, transforming design innovation into the core driving force for rural industrial upgrading, a vivid carrier for cultural inheritance, and a strong support for improving people's livelihood, injecting lasting vitality into the industrial development, ecological construction, and rural customs cultivation of rural areas, and helping to paint a new picture of rural revitalization featuring prosperous industries, livable ecology, civilized rural customs, effective governance, and affluent life.

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- 3) Research Results of the Cultural Commissioner Project in Dong'ao Village, Caocun Town, Ruian City, Wenzhou.

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