Reform and Practice of Experimental Teaching for the Teochew Gongfu Tea Course in the Context of Intangible Cultural Heritage

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Abstract This study explores the reform and innovation of experimental and practical teaching for the Teochew Gongfu Tea course within the framework of intangible cultural heritage (ICH) education. Through the construction of a "Three-Dimensional Synergy, Four-Competency Progression, and Five-Integration" model, the research aims to establish a comprehensive and sustainable system that integrates ICH inheritance, technical training, and innovation education. Drawing on Outcome-Based Education (OBE) and constructivism learning theory, the reform introduces multi-source collaboration, hybrid learning, and competence-oriented assessment mechanisms. Through case-based teaching and iterative feedback, the model effectively enhances students' cultural cognition, technical proficiency, creative thinking, and professional development. The findings demonstrate that this model not only improves students' practical performance and engagement but also deepens their understanding and appreciation of traditional culture, offering a replicable model for other ICH-related programs in higher education.

Key words Teochew Gongfu Tea; Experimental Teaching Reform; Three-Dimensional Synergy; Competence-Based Education

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Teochew Gongfu Tea, recognized as a national intangible cultural heritage (ICH), is a gem of living inheritance within Chinese tea culture. Its core principles of "Harmony, Respect, Refinement, and Joy" and the sophisticated "Twenty-One Steps" brewing method demand practitioners to possess both profound cultural understanding and skilled practical ability. As pivotal hubs for cultural inheritance and innovation, higher education institutions must systematically integrate intangible cultural heritage skills into their talent development frameworks, which is an an inevitable choice to address contemporary challenges. The experimental and practical link, as the core channel of connecting theory and skills and internalizing cultural spirit, directly determine the efficacy of nurturing ICH inheritors.

However, traditional experimental and practical teaching in ICH courses often faces three major challenges: Firstly, teaching objectives are fragmented, with cultural theory instruction often disconnected from hands-on craftsmanship practice. Secondly, the learning environment is confined, with weak connections between on-campus training and both the authentic contexts of heritage practice and current industry demands. Thirdly, assessment mechanisms are simplistic, failing to effectively evaluate students' comprehensive competencies and innovative abilities demonstrated during practical processes[1]. To address the aforementioned challenges, this study explored an effective reform pathway for the experimental and practical teaching of the "Teochew Gongfu Tea" course in the Tourism Management major at Hanshan Normal University. This reform initiative breaks from the conventional emphasis on "knowledge transmission over competence building" and draws on advanced practices in constructing practical teaching systems for applied disciplines[2]. The goal is to establish a student-centered and competency-outcome-oriented experimental teaching ecology that deeply integrates online and offline learning experiences.

Theoretical Foundation and Literature Review for the Reform of Experimental and Practical Teaching

Theoretical foundation

This reform is primarily based on two educational philosophies.

Constructivism learning theory The theory emphasizes that learning is an active process in which learners construct meaning through interaction with their environment[3]. In designing the experimental and practical teaching, we adhere to a student-centered approach. Online, we stimulate independent inquiry through micro-lecture viewings, Q&A discussions, and project-based learning (PBL). Offline, flipped classrooms and group collaborative practices transform students from passive recipients of knowledge into active practitioners of tea art skills and engaged participants in tea utensil crafting, thereby facilitating the internal construction of meaning related to the knowledge and techniques of Teochew Gongfu Tea.

Outcome-Based Education (OBE) The OBE philosophy emphasizes that instructional design and implementation should revolve around the final learning outcomes achieved by students[4]. All elements of this course's experimental and practical teaching, including the development of online resources, offline experimental activities, and assessment methods, are closely aligned with the three major teaching objectives (thoughts, knowledge, and skills). It ensures that through course learning, students can

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practically master the core competencies of Gongfu tea art and tea ware production, reflecting the educational design principle of "begin with the end in mind".

Literature review

Currently, integrating ICH into the professional curriculum systems of higher education institutions and strengthening its experimental and practice has become a research hotspot. Scholars generally agree that ICH courses should move beyond "museum-style" static preservation and shift toward "living inheritance", emphasizing practicality and experiential learning[5]. Wu[6] pointed out that local characteristic courses, with their unique regional cultural resources, provide a vivid carrier for curriculum ideological and political education, and their construction can be effectively promoted through online and offline experimental and practical teaching. Such a approach coincides with the idea of using Teochew Gongfu Tea culture for value guidance in this course.

In the innovation of practical teaching models, Hu *et al.* [2] proposed a "Three-Dimensional, Four-Competency and Five-Integration" applied professional practice teaching system, which provides an important framework reference for this study. The system emphasizes the creation of an integrated learning environment through the synergy of "space, subject, and content" dimensions, achieves progressive enhancement of student competencies through systematic ability goal design, and ensures the implementation of the teaching system through diversified pathways. The successful experience of Japan's "Vocational Practice Specialized Courses" also demonstrates that precise alignment between curriculum and industry needs and in-depth design of practical components are key to cultivating high-quality technical and skilled talents[7].

However, for courses such as "Teochew Gongfu Tea", which encompass profound cultural connotations and complex technical processes, there remains a notable lack of empirical research on how to systematically reform their experimental and practical teaching, particularly in integrating online resources with offline practical training, and cultural immersion with skill refinement. This study addresses this research gap by committing to explore a replicable and scalable path for reform.

The Core Framework of Experimental and Practical Teaching Reform: The "Three-Dimensional Synergy and Four-Competency Progression" Teaching Model

Drawing on advanced practical teaching models[2] and incorporating the characteristics of Teochew Gongfu Tea craftsmanship inheritance, this course has developed a "Three-Dimensional Synergy and Four-Competency Progression" experimental and practical teaching model.

"Three-Dimensional Synergy": Building an integrated experimental and practical teaching field

Spatial synergy: Achieving integration through "online virtual simulation, offline training, and off-campus base" domains The course leverages the Xueyin Online platform to establish a virtual simulation resource library comprising 98 micro-lesson videos and 49 non-video resources, covering core content such as the history of Gongfu Tea, tea leaf identification, Zhuni teapot appreciation, and the "Twenty-One Steps" brewing method. Offline, the focus has been on establishing a "Gongfu Tea Art Training Studio" and a "Hand-pulled Zisha Pottery Workshop", fully equipped with practical training facilities. Additionally, partnerships have been formed with local tea plantations and ICH workshops in Chaozhou, extending the teaching space to the original ecological environments of intangible heritage. This approach creates a multidimensional experimental and practical teaching field that integrates virtual and physical elements and combines internal and external interactions.

Subject synergy: Forming a diverse guidance community of "university teachers, intangible cultural heritage inheritors and industry mentors" The project team deeply integrates professional teachers in the school with industry experts such as Chaozhou's hand-thrown Zisha teapot ICH inheritors, Guangdong masters of arts and crafts, and tea evaluation technicians. The inheritors and industry mentors deeply participate in the entire process of experimental and practical teaching design, offline teaching, and work evaluation, ensuring the authenticity and cutting-edge nature of skill transmission. This "dual-teacher" or even "multi-teacher" faculty structure effectively addresses the potential lack of practical experience among university teachers.

Content synergy: Promoting the deep integration of "intangible heritage skills, cultural and creative design and curriculum ideological and political education" The experimental and practical content is not merely a simple accumulation of skills. Instead, it integrates the standardized operations of Teochew Gongfu Tea's "Twenty-One Steps" and the crafting techniques of hand-thrown Zisha teapots (skill inheritance) with the development of tourism cultural and creative products and the planning of ICH dissemination (innovative application). Furthermore, ideological and political elements such as the "craftsman spirit", "cultural confidence", and "harmony and respect in life" (value guidance) are organically incorporated into every segment, achieving the synergistic cultivation of knowledge, skills, and literacy.

"Four-Competency Progression": A systematic experimental and practical competence development path

Centered on core competencies, the course has designed progressive objectives for cultivating four key competences, which are integrated throughout the experimental and practical teaching:

Cultural cognition competency Through online theoretical learning and offline cultural salons, students gain an understanding of the historical context, cultural spirit, and social functions of Teochew Gongfu Tea, laying a ideological foundation for its transmission.

Technical operation competency Through repeated practice in the training studio, students master the standardized procedures of the "Twenty-One Steps" in Teochew Gongfu Tea art and acquire basic skills in crafting hand-thrown Zisha teapots from Chaozhou.

Integrated innovation competency Through Project-Based Learning (PBL) initiatives, students are able to integrate ICH elements with modern aesthetics and market demands, enabling

them to undertake basic cultural creativity design and communication planning.

Career development competency Through internships and practical training at off-campus bases, students acquire the professional potential and sustainable development ability to apply their knowledge and skills in related fields such as cultural tourism and cultural creativity.

These four competencies are designed in experimental and practical teaching to progress from shallow to deep, from surface to core, forming a clear developmental pathway that ensures students' competences advance in a spiral manner.

Implementation Pathways for Experimental and Practical Teaching Reform: The "Five-Integration" Practical Strategy

To ensure the effective implementation of the reform framework, the course has adopted a "Five-Integration" strategy in its experimental and practical component.

Three-dimensional teaching content

A three-tiered experimental and practical content system of "theoretical understanding, specialized training and comprehensive innovation" has been constructed. The online platform primarily handles theoretical knowledge and observational learning. Offline experiments focus on two specialized skill modules: "Twenty-One Steps of Tea Art" and "Zisha Teapot Crafting". Finally, through PBL projects, students are guided to integrate application and innovation, achieving the transition from "knowing what" to "understanding why" and ultimately to "creating something new".

Progressive difficulty in teaching

The practical teaching process strictly follows the rules of skill development and adopts a step-by-step design. Students begin by observing and previewing through online videos, and then proceed to imitate and repeatedly practice segmented movements in the training studio. Next, under the guidance of teachers and inheritors, they complete the operation of the entire process. Finally, they tackle complex tasks through comprehensive projects. This progressive process of "observation, imitation, proficiency and innovation" aligns with the natural law of gradual professional competency development[7].

Integration of the "three practices"

The three components, "probation, internship, and research study", are consistently integrated throughout the experimental and practical teaching. "Online observation + base visits" form the probation component, enabling students to build perceptual understanding. "Offline experiments + workshop practice" constitute the internship component, honing core skills. "Project research + thematic seminars" serve as the research study component, guiding students to deeply reflect on and explore technical processes, cultural connotations, and innovative applications, thereby forming a virtuous cycle of "learning by doing, researching while learning, and innovating through research"[2].

Digitalization of teaching methods

We fully leverage information technology to enhance experimental and practical teaching. In addition to building a comprehensive online resource library, a multi-camera recording and playback system is used to help students conduct self-assessment and correct their operation, achieving precise and personalized guidance in the teaching process.

Diversification of teaching evaluation

Breaking the traditional evaluation model of "single exam determines all", a diversified assessment system covering the entire experimental and practical teaching process and involving multiple stakeholders has been established. In terms of evaluation content, it balances operational standardization (such as tea infusion results and teapot body quality), theoretical comprehension, project innovation, and team collaboration spirit. In terms of evaluation subjects, it integrates assessments from teachers, feedback from ICH inheritors, and peer and self-evaluations from students. Furthermore, students' achievements in skills competitions and cultural and creative designs are incorporated into the evaluation, forming a comprehensive assessment mechanism guided by an innovation-oriented approach[8].

Reform Outcomes and Analysis

After seven complete cycles of teaching practice, the reform of the course's experimental and practical teaching component has achieved remarkable results.

Significant improvement in student engagement and comprehensive abilities

Data from the Xueyin Online platform shows that the course has attracted over 1 500 enrollments, with page views exceeding 1.1 million and interaction counts surpassing 12 000, reflecting students' high enthusiasm for learning. Observation and assessment records from offline experimental classes indicate that students who adopted the "online preview + offline intensive training" model showed an average improvement of approximately 40% in the standardization and proficiency of their Gongfu tea art operation. In hand-thrown teapot crafting experiments, the vast majority of students were able to successfully complete basic teapot shapes and submitted creative experimental reports or cultural innovation design proposals.

Prominent outcomes in curriculum ideological and political education and cultural cultivation

By integrating ideological elements such as the "craftsman spirit" and "cultural confidence" into practical activities, students genuinely experienced the quality connotation of striving for excellence and pursuing excellence through repeated skill refinement. An anonymous questionnaire conducted after the course revealed that over 95% of students believed the course "significantly enhanced their sense of identity and pride in China's outstanding traditional culture".

Initial demonstration effect and promotion value of the course

The reform model of this course has been successfully extended to 15 sister institutions across the country, demonstrating its strong operability and universality. Furthermore, the teaching reform research based on this course's practices has been approved

for the Guangdong Province Continuing Education Quality Improvement Project, which corroborates the academic and practical value of this reform exploration from another perspective.

Conclusions and Prospects

The reform and exploration of the experimental and practical teaching component in the "Teochew Gongfu Tea" course have successfully integrated ICH transmission, technical skill development, and innovation-oriented education. By constructing and implementing the hybrid "Three-Dimensional Synergy, Four-Competency Progression, and Five-Integration" teaching model, it has effectively addressed core challenges in intangible heritage pedagogy, including the disconnection between theory and practice, limited teaching contexts, and rigid evaluation systems, thereby enhancing students' practical competence, innovative thinking, and holistic professional development.

The laboratory serves not only as a venue for verifying scientific principles, but also as a crucial platform for cultural inheritance and the cultivation of innovative spirit and practical ability. In the future, the course team will continue to deepen the reform. On one hand, plans are underway to introduce artificial intelligence and big data technologies to achieve more precise analysis and personalized guidance for students' experimental and practical teaching processes and skill mastery. On the other hand, collaboration with industry in "industry-university-research-application" integration will be further strengthened. The establishment of "ICH creative workshops" will be explored to expose student works directly to market evaluation. This approach aims to realize the creative transformation and innovative development of ICH through deeper industry-education integration.

References

[1] HU S, CHANG Z. Innovative construction and practice of the practical teaching system for application-oriented preschool education majors[J]. Xueqian Jiaoyu Yanjiu (Early Childhood Education Research), 2025(8): 61-68.

[2] HU S. Exploration and application of the "Three-Dimensional, Four-Competency, and Five-Integration" practical teaching system [J]. Xueqian Jiaoyu Yanjiu (Early Childhood Education Research), 2025(8): 62-68.

[3] JONASSEN DH. Thinking technology: Toward a constructivist design model[J]. Educational Technology, 1994, 34(4): 34-37.

[4] SPADY WG. Outcome-based education: Critical issues and answers [M]. Arlington, VA: American Association of School Administrators, 1994.

[5] LAN S, FENG D, WANG J. Application of intangible cultural heritage in tourism management education in Chinese universities[J]. Lvyou Gailan (Tourism Overview), 2025(30): 28-30.

[6] WU, Y. Promoting ideological and political education through the "Teochew Gongfu Tea" course[N]. Zhongguo Jiaoyu Bao (China Education Daily), 2024-12-27(07).

[7] XU K, YU L, ZHAO G. What constitutes practical teaching in vocational education: Characteristics and implications of Japan's professional practice specialized courses[J]. Xiandai Daxue Jiaoyu (Modern University Education), 2025(5): 95-103.

[8] WU X, HUA Z, NIU M, *et al*. Reform of the practical teaching curriculum system for the Traditional Chinese Medicine major based on innovative talent cultivation[J]. Huaxue Jiaoyu (Chemical Education, Chinese and English Edition), 2025, 46(18): 78-86.

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[35] MANE R, CHEW E, CHUA K, *et al*. FBCNet: A multi-view convolutional neural network for brain-computer interface[J]. arxiv preprint arxiv: 2104.01233, 2021.

[36] ZHANG BX, CHAI CL, YIN Z, *et al*. Learning style recognition with multiscale EEG features[J]. Journal of Chinese Mini-Micro Computer Systems, 2021, 42(12): 2479-2484. (in Chinese).

[37] MA X, CHEN W, PEI Z, *et al*. Attention-based convolutional neural network with multi-modal temporal information fusion for motor imagery EEG decoding[J]. Computers in Biology and Medicine, 2024, 175: 108504.

[38] BA J L, KIROS J R, HINTON G E. Layer normalization[J]. arxiv preprint arxiv: 1607.06450, 2016.

[39] HE K, ZHANG X, REN S, *et al*. Deep residual learning for image recognition[C]//Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, 2016: 770-778.

[40] LI HL, LIU HY, CHEN HY, *et al*. Multi-scale feature extraction and classification of motor imagery EEG based on time-series data augmentation[J]. Journal of Biomedical Engineering, 2023, 40(3): 418-425. (in Chinese).

[41] TANGERMANN M, MÜLLER K R, AERTSEN A, *et al*. Review of the BCI competition IV[J]. Frontiers in neuroscience, 2012, 6: 55.

[42] PASZKE A, GROSS S, MASSA F, *et al*. Pytorch: An imperative style, high-performance deep learning library[J]. Advances in Neural Information Processing Systems, 2019, 32.

[43] KINGMA D P. Adam: A method for stochastic optimization[J]. arxiv preprint arxiv: 1412.6980, 2014.

Editor: Yingzhi GUANG Proofreader: Xinxiu ZHU