

Construction of a Traditional Chinese Medicine Cultural Education Practice System Driven by “Inheritance–Integration–Innovation”: An Exploration of Integrating Distinctive Traditional Chinese Medicine Resources with Modern Educational Technologies

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Abstract: Education in traditional Chinese medicine (TCM) culture is an important means of carrying forward China’s fine traditional culture. How to provide this process with a strong cultural foundation while ensuring that it conforms to the principles of educational development has become a key issue in establishing and improving the teaching system for knowledge-oriented courses. Taking “inheritance–integration–innovation” as its three analytical dimensions, this paper defines the practical education system in terms of both its connotation and extension. On this basis, it examines the synergy, dynamism, and practical orientation of the three-dimensional framework and discusses its educational value. Finally, specific strategies are proposed, including exploring distinctive resources, integrating diverse educational media, developing innovative practice models, and establishing an evaluation mechanism. These strategies aim to shift TCM cultural education from knowledge transmission to competency development and provide broader practical guidance for the inheritance of TCM culture and educational innovation.

Keywords: Traditional Chinese Medicine Cultural Education; Inheritance–integration–innovation; Construction of a Practical System; Integration of Educational Technology.

1. Introduction

1.1. Research Background

Traditional Chinese medicine (TCM) culture is a valuable part of Chinese culture, embodying the health-related wisdom and spiritual essence accumulated by the Chinese nation over thousands of years in health preservation, disease prevention, and medical treatment. Although some schools have introduced TCM cultural education and achieved initial results, practical problems remain for various reasons, including fragmented resources, limited teaching approaches, and outdated evaluation methods. These problems hinder the broader and deeper transmission of TCM culture. To address them, this study proposes a three-dimensional framework of “inheritance–integration–innovation,” organically combining modern educational technology with the distinctive features of TCM. It examines the definition, value, and construction of a practical system for TCM cultural education, with the aim of identifying possible solutions to current educational challenges and providing direction for the living transmission of TCM culture.

2. Theoretical Definition of the Practical System for TCM Cultural Education

2.1. Conceptual Analysis of the Practical System for TCM Cultural Education

The practical system for traditional Chinese medicine (TCM) cultural education must be understood in terms of both its connotation and extension. In terms of connotation, the

system centers on TCM culture and regards its philosophical ideas, theoretical system, and practical experience as the core values of educational practice. Educational practice serves as the vehicle through which TCM culture is transformed from “static knowledge” into “dynamic understanding” by means of knowledge instruction, skills training, and cultural experiences. The system follows the path of “inheritance–integration–innovation.” Inheritance refers to the direct transmission of TCM cultural knowledge from one generation to the next, representing the intergenerational transmission of the cultural genes of TCM. Integration involves the organic combination of distinctive resources and educational technologies on the basis of inheritance. Innovation refers to the continuous renewal of practical models in response to the changing times. These three dimensions complement one another and together form the core operational logic of the educational practice system [1].

In terms of extension, the educational practice system mainly encompasses educational objectives, content, methods, and participants. Its objective is to cultivate well-rounded individuals who possess cultural identity, practical competence, and an awareness of innovation. The educational content should be developed by combining distinctive TCM resources with modern educational technologies. Educational methods should integrate theoretical instruction with practical activities. They should also employ both traditional forms of cultural transmission and new media channels to increase students’ receptiveness. The participants in this system include students, teachers, and institutions that provide educational resources.

2.2. Characteristics of the Three-Dimensional Framework

The characteristics of “inheritance–integration–innovation” can be examined from three perspectives: synergy, dynamism, and practicality. The framework is synergistic in that inheritance promotes both integration and innovation while serving as a cultural link between the past and the present. Integration should fully respect the central role of inheritance while performing its own connecting function. It bridges traditional resources with modern educational technologies and contemporary disciplinary needs. It also transforms traditional cultural images and topics into subtle and engaging forms of modern education, thereby extending the reach and settings of cultural transmission while preserving the authenticity of TCM culture.

The three-dimensional framework is not fixed or static; rather, it is continuously adjusted and developed in response to changes in the educational environment. In the new era, educational objectives should shift from knowledge transmission to competency development, while the focus of cultural inheritance should move from the memorization of classical texts to the internalization of cultural values. The effectiveness of the framework must also be assessed through practice. Specifically, it is necessary to determine whether the cultural content being transmitted can truly be understood and accepted by students and whether integration, as a new approach to cultural inheritance, can demonstrate its effectiveness in classroom practice.

3. Teaching Value of the Practical System for TCM Cultural Education

3.1. Strengthening Cultural Identity and Fostering Awareness of TCM Inheritance

Strengthening cultural identity and fostering an awareness of inheritance constitute the student-oriented educational objectives of the practical system. Through the engagement of multiple senses, including hearing and taste, immersive learning enables students to acquire knowledge from different dimensions. During herb identification, students gain direct sensory experience through activities such as “tasting with the mouth” and observing bodily responses. When interpreting medical cases, they examine details, identify relevant clues, and clarify the underlying logic before reflecting on and synthesizing the information to develop their own reasoning process. In this way, they gradually internalize TCM philosophical concepts such as “the unity of humanity and nature” and “syndrome differentiation and treatment.”

Furthermore, when students shift from passive reception to active construction of knowledge, their emotional connection with TCM culture becomes stronger. They become more willing to share what they have learned with family and friends or apply their understanding of medicinal diets and dietary therapy to support their families’ health in daily life. This progression from cultural identification to putting knowledge into practice is the clearest expression of cultural confidence. Ultimately, this objective responds to students’ desire for a deeper sense of cultural identity and generates internal momentum for the intergenerational transmission of TCM culture.

3.2. Enhancing Comprehensive Competence and Promoting Interdisciplinary Thinking

First, the practical system can enhance students’ comprehensive competence and interdisciplinary learning, enabling them to move from being “learners with a single and limited perspective” to “constructors of integrated knowledge” and thereby develop a more complete knowledge structure.

Second, the incorporation of project-based learning facilitates the development of students’ abilities. When completing projects such as designing a communication plan for TCM culture, students independently search for information according to their actual needs. Such information may include historical stories, the properties, functions, and applications of relevant subject matter, and methods of visual presentation. Formative assessment is conducted throughout the process. Guided by the chain of thinking that moves from “identifying problems” to “integrating resources” and then to “solving problems,” students strengthen their ability to identify problems through project-based practical inquiry. As they develop problem-solving skills, they also improve their capacity for interdisciplinary learning. In addition, the inherently collaborative nature of project work helps cultivate students’ cooperation and communication skills.

3.3. Optimizing Teaching Resources and Strengthening Cultural Communication

Optimizing teaching resources and strengthening cultural communication reflect the value of the practical system at the teacher level. First, resource integration enables a structural upgrade of teaching materials. Dispersed textual, physical, and digital resources are organized into semantically coherent resource packages by integrating distinctive TCM resources with modern educational technologies. This approach overcomes the traditional difficulty of “having resources without a system” and addresses problems such as the lack of process-oriented materials for cultural interpretation.

Second, structured resource packages make cultural communication more vivid and precise. Differentiated explanations can be provided for distinctive resources at different levels, thereby avoiding the information overload caused by a one-size-fits-all approach. Third, resource optimization can create a positive cycle through teaching feedback [2–3]. Teachers can move beyond a lecture-centered approach toward the diversified presentation and appropriate matching of resources, ultimately becoming genuine guides in cultural communication.

3.4. Promoting Teaching Innovation and Supporting Professional Growth

At the teacher level, the implementation of action-oriented practice further highlights the value of teaching innovation and its significance for professional growth. It encourages teachers to break free from the constraints of the traditional lecture-centered approach and adopt more diverse forms of teacher–student interaction. It also prompts them to strengthen their capacity for educational and pedagogical research. Teachers are expected to progress from having no established approach to applying structured theoretical methods to well-defined practical problems, thereby gaining a clearer direction for professional development.

This process enables teachers to move beyond the limited role of knowledge transmitters and become creators of culture. Their professional growth should not be confined to passing

on established disciplinary knowledge. More importantly, they should continually update their educational philosophies and actively explore new ways to carry forward China's fine traditional culture [4–7].

4. Strategies for Constructing a Practical System Driven by “Inheritance–Integration–Innovation”

4.1. Exploring Distinctive Resources and Consolidating the Foundation for Inheritance

Exploring distinctive resources and consolidating the foundation for inheritance are essential to constructing a practical system for TCM cultural education. From the perspective of implementation, regional TCM cultural resources provide the most direct means through which students can encounter and experience TCM culture. Their

distinctive local characteristics are more likely to arouse students' interest and resonate with them. These resources should therefore be systematically reviewed and scientifically classified so that fragmented information can be transformed into teachable and transmissible materials for instruction and practice.

Teachers should first conduct a “survey of regional TCM resources” to understand the growth habits, medicinal value, and historical records of locally produced geo-authentic medicinal materials. They should then collect and comprehensively organize simple empirical prescriptions and traditional techniques passed down among local communities and in surrounding areas. Local customs and folk practices related to TCM should also be documented and catalogued [8]. Finally, all types of materials should be uploaded, compiled, and incorporated into a knowledge database that serves as a “source-material repository” for practical TCM cultural education, as shown in Figure 1.



Fig 1. Exploring Distinctive Resources and Consolidating the Foundation for Inheritance

4.2. Integrating Diverse Instructional Modalities to Revitalize Teaching

Integrating diverse instructional modalities can revitalize teaching and address the traditional tendency of TCM cultural education to emphasize theory while neglecting experience. From the perspective of educational psychology, reliance on a single modality can easily cause cognitive fatigue. The combination of “classical texts, practical experience, and scenario-based enactment” draws on the human capacity to acquire information through multiple channels. Multichannel stimulation reinforces the cognitive processing and retention of knowledge while deepening understanding [8].

Classical texts emphasize reading and experiencing original cultural works; practical activities provide opportunities to translate integrated understanding into embodied experience; and scenario-based enactment strengthens emotional resonance. In other words, classical texts provide the content to be read, practical experience constitutes the learning process, and scenario-based

enactment creates emotional engagement. Teachers should first identify the knowledge objectives to be achieved in each lesson and then design text-based practical activity modules. Through practice, students can transform abstract theories into practical skills. Teachers should also create everyday scenarios in which students assume different roles and experience the cultural meanings associated with them. Through this subtle process of cultural immersion, students can shift from “passive listening” to “active construction” of knowledge.

For example, when teaching the unit “Application of Syndrome Differentiation and Treatment” in the senior secondary course TCM Culture and Health, teachers may integrate multiple modalities as follows. Before class, the teacher selects classical passages on “Taiyang disease” from the Shang Han Lun (Treatise on Cold Damage) and asks students to preview them with the aid of annotations and mark any points they find difficult. During class, the teacher first organizes a “shared reading of the classics,” in which the teacher and students jointly analyze the passages and resolve

the questions identified beforehand. This is followed by a “practical experience” activity. The teacher provides simulated medicinal materials and medical record cards, and students work in groups to discuss and role-play how to formulate prescriptions, select medicines, and dispense and prepare medicinal materials. Through this process, they attempt to understand the “correspondence between formulas and patterns.” Finally, a “scenario-based enactment” is conducted in which students enter a simulated “ancient medical clinic” and take on the roles of patients, apprentices, and physicians, transforming their knowledge of the classical passages into practical actions. After class, the teacher assigns a “family health observation” task. Students record symptoms that occur in their family members’ daily lives, use “pattern-differentiation thinking” to infer possible constitutional types, and document their own firsthand reflections.

4.3. Innovating Practice Models to Enhance Educational Effectiveness

Developing innovative practice-based education models and improving educational effectiveness are essential to enabling TCM cultural education to progress from “knowing” to “being able to apply.” In accordance with the principles of education, students’ cognitive development proceeds “from the elementary to the advanced, from perceptual understanding to rational understanding, and from imitation to innovation.” Teaching should therefore fully reflect a progressive model consisting of “foundational cognition–skills training–innovative application.” This approach should avoid both forcing students to advance prematurely and relying on mechanical repetition [9–11].

Teachers should also divide competency development into three levels according to the teaching objectives: foundational cognition, skills training, and innovative application, as shown in Figure 2.

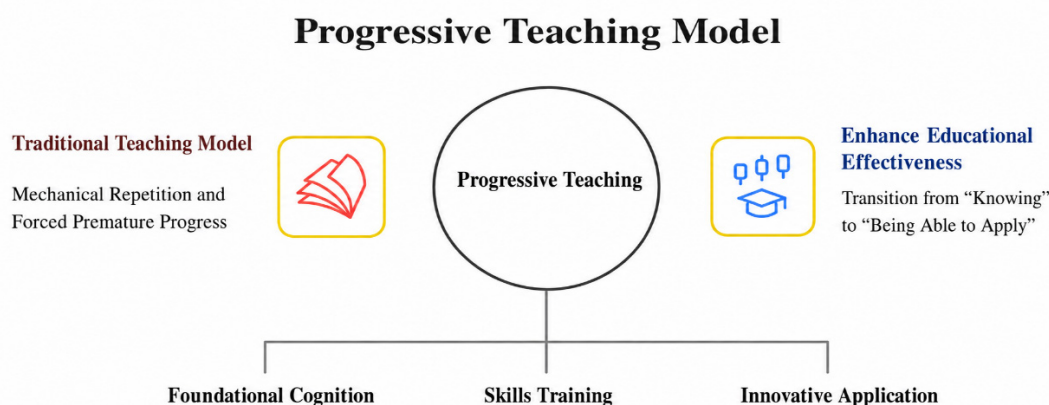


Fig 2. Innovating Practical Models and Enhancing Educational Effectiveness

For the unit “Processing and Application of Common Chinese Medicinal Materials” in the secondary vocational course *Chinese Materia Medica Processing Techniques*, the practical teaching process can be organized as follows. At the foundational cognition stage, the teacher uses PowerPoint slides to introduce the concept of “processing” and explains its purposes through several examples. Students read the textbook in full and complete a “Comparison Table of Common Processing Methods,” thereby establishing a basic cognitive framework for learning.

At the skills-training stage, the teacher demonstrates the standard operating procedures and organizes practical exercises using simulated medicinal materials. During these exercises, students rotate between tasks and interact with one another under the teacher’s guidance. They also complete an “Operation Record Card” to document their mistakes and identify areas for future improvement. This process is intended to gradually develop and strengthen their ability to perform standardized operations.

At the innovative application stage, the teacher assigns the task of “designing a spleen-strengthening medicinal diet suitable for the local climate.” Drawing on the knowledge and skills acquired in the previous two stages, students consider local climatic conditions, select medicinal ingredients with appropriate compatibility, and design suitable processing methods for the medicinal diet. After developing a “spleen-strengthening and dampness-dispelling medicinal diet formula,” they are also required to provide an explanation of

their design.

4.4. Establishing an Evaluation Mechanism to Ensure Sustainable Development

Establishing a sound evaluation mechanism is a long-term requirement for ensuring the sustainable development of the practical system for TCM cultural education. According to the closed-loop logic of education, practice without evaluation cannot identify problems or improve methods; it can neither locate problems precisely nor uncover their root causes. A dual-dimensional evaluation system combining process-based and outcome-based assessment should therefore be established. Process-based assessment focuses on the learning process and examines “how students learn,” whereas outcome-based assessment focuses on whether the objectives have been achieved and examines “how well students have learned.” Together, they create a positive cycle of “implementation–feedback–improvement.”

Teachers should first clarify the dimensions and methods of evaluation. They should also regularly collect, organize, and summarize assessment results. Based on actual teaching conditions, they can then analyze relationships between participation, levels of understanding, and assessment scores, as well as the relationship between collaboration and the quality of learning outcomes. These findings can provide a reference for improving subsequent teaching strategies [12–15].

Taking the unit “Medicinal Herbs Around Us” as an

example, during the pre-class resource-collection stage, the teacher distributes a “Resource Collection Record Form” according to the instructional requirements, providing basic data for process-based assessment. During class, students complete a “Group Collaboration Scorecard” through group work. This scorecard is used to assess cooperation within each group, as well as the comparison of relevant literature and the annotation of information during class. In the post-class “Young Herbal Medicine Lecturer” activity, community elders and teachers are invited to complete an “Explanation Effectiveness Evaluation Form” for a group member. The “Medicinal Material Information Card” submitted by the student is then included in the outcome-based assessment portfolio.

5. Conclusion

In this study, the practical system for TCM cultural education driven by “inheritance–integration–innovation” is constructed by combining its theoretical definition with the mutual enhancement of students’ comprehensive qualities and teachers’ professional competence, as well as a closed practical loop consisting of “resources–modalities–models–evaluation.” Theoretically, this framework advances research on TCM cultural education. Within the framework, “inheritance” represents its cultural dimension, “integration” its educational dimension, and “innovation” its developmental dimension. The unity of these three dimensions establishes the value system of TCM cultural education.

At the practical level, the framework facilitates the effective implementation of TCM cultural education and provides educational institutions with an actionable pathway. It can enhance students’ cultural identity and comprehensive competence while supporting teachers’ transition from “transmitters of knowledge” to “creators of culture.”

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