Creative Education, 2026, 17(1), 102-108
https://www.scirp.org/journal/ce
ISSN Online: 2151-4771
ISSN Print: 2151-4755

The Construction and Practice of the "Medicine-Teaching Collaboration" Teaching Model of TCM Diagnosis with the Goal of Improving TCM Clinical Thinking Ability

Xiaohong Li[1*], Liqiang Yang[1], Xin Deng[1], Meizhen Zhu[1], Tian Li[1], Qingqing Zeng[2#]

[1]Basic Medical College, Guangxi University of Chinese Medicine, Nanning, China
[2]School of Continuing Education, Guangxi Medical University, Nanning, China
Email: [#]327025072@qq.com

How to cite this paper: Li, X. H., Yang, L. Q., Deng, X., Zhu, M. Z., Li, T., & Zeng, Q. Q. (2026). The Construction and Practice of the "Medicine-Teaching Collaboration" Teaching Model of TCM Diagnosis with the Goal of Improving TCM Clinical Thinking Ability. *Creative Education, 17,* 102-108.
https://doi.org/10.4236/ce.2026.171008

Received: October 16, 2025
Accepted: January 24, 2026
Published: January 27, 2026

Abstract

Clinical reasoning in traditional Chinese medicine (TCM) constitutes the core competency of TCM diagnosis and treatment. As a bridge course connecting foundational knowledge with clinical practice, the teaching quality of TCM diagnostics directly influences the development of students' clinical reasoning skills. Addressing current challenges in TCM diagnostic practice teaching—such as disconnect between theory and practice and insufficient clinical reasoning development—the team established a "medical-educational synergy" teaching model. This model reinforces the educational philosophy of "early, frequent, and repeated clinical exposure" through four dimensions: curriculum restructuring, collaborative practice platform development, faculty integration, and assessment mechanism reform. Practice demonstrates that this model effectively enhances students' abilities in integrating the four diagnostic methods, pattern differentiation analysis, and clinical decision-making, offering a new pathway for cultivating TCM professionals.

Keywords

Traditional Chinese Medicine Diagnosis, Medical-Educational Synergy, Clinical Reasoning Skills, Teaching Model Reform

1. Introduction

Traditional Chinese Medicine clinical reasoning is the logical process of applying

*First author.
#Corresponding author.

TCM theory to analyze the essence of disease and formulate diagnostic and therapeutic plans. It serves as the core indicator for assessing the clinical competence of TCM practitioners (Li, 2016). The State Council's "Several Policy Measures on Accelerating the Development of Traditional Chinese Medicine with Distinctive Characteristics" explicitly states: "Persist in developing TCM apprenticeship education and deepen the reform of medical-education coordination" (Xu, 2022). As a core TCM specialty course, TCM Diagnostics bears the crucial mission of cultivating students' "differentiation of syndromes and treatment" thinking. However, current teaching practices face issues such as a disconnect between the curriculum system and clinical demands, weak practical teaching components, and a monolithic faculty structure (Li et al., 2022), resulting in suboptimal development of students' clinical reasoning abilities. Research practice demonstrates (News Network of Beijing University of Chinese Medicine, 2024) that medical-education synergy effectively bridges theoretical instruction and clinical practice. Through a tripartite model integrating "academic institutions—mentorship—family traditions," it significantly enhances students' clinical emergency response capabilities. Therefore, establishing a "medical-education synergy" teaching model for TCM diagnostics centered on clinical thinking cultivation is both an imperative for implementing national TCM education reform policies and a practical necessity for addressing current teaching challenges. This paper systematically explores the construction and implementation pathways of this model based on teaching practice.

2. Current State of Traditional Chinese Medicine Diagnosis Education and Challenges in Cultivating Clinical Thinking

(1) Disconnect Between Curriculum and Clinical Practice. Within the current curriculum framework, courses cultivating TCM thinking (such as TCM Schools of Thought and History of Chinese Medicine) are predominantly electives with limited credit hours, resulting in students lacking essential philosophical grounding in TCM thought (Zhang, 2023). Theoretical instruction relies heavily on lecture-based teaching, with fragmented textbook content. Training in the Four Diagnostic Methods often remains confined to simulated scenarios, lacking exposure to authentic clinical settings. Surveys indicate (Ouyang et al., 2025) that 68.3% of students perceive "theory knowledge as difficult to translate into clinical diagnostic competence."

(2) Insufficient Supply of Practical Teaching Resources. Three major contradictions exist in clinical practice components (Xing et al., 2020): First, the mismatch between medical resources and student demand—teaching physicians at top-tier hospitals handle high daily patient volumes, making personalized guidance for medical students difficult to guarantee. Second, the conflict between internship duration and cognitive development—traditional graduation internships are concentrated in the final year, lasting only 8 - 12 weeks, which fails to achieve "repeated clinical exposure." Third, the conflict between postgraduate entrance exam

pressure and practical training commitment, with approximately 72% of students diverting internship time to prepare for the exams.

(3) Faculty Composition The "dual-qualified" characteristic is not prominent. University instructors often lack frontline clinical experience, while hospital physicians lack training in teaching methodologies. Statistics indicate (Chen et al., 2020) that only 35% of TCM diagnostic instructors possess dual qualifications in both clinical practice and teaching. This faculty structure results in teaching practices that simultaneously emphasize theory over practice and skill over critical thinking, making it difficult to effectively guide students in constructing a TCM clinical reasoning framework.

(4) Limited Assessment Mechanisms. Current evaluations primarily rely on theoretical written exams, which account for over 70% of the assessment weight, while practical skills and clinical reasoning receive disproportionately low emphasis. Assessment content focuses heavily on rote memorization of knowledge points—such as the Four Diagnostic Methods and key principles of pattern differentiation—while neglecting evaluation of the complete reasoning chain: "integrating the Four Diagnostic Methods—conducting pattern differentiation analysis—formulating treatment principles and prescriptions." This results in students who "can memorize but cannot apply."

3. Establishing a "Medical-Educational Synergy" Teaching Model for Traditional Chinese Medicine Diagnostics

(1) Reconstructing a "Clinically Oriented" Curriculum System. ① Modular Curriculum Design: Courses are divided into "Foundational Modules + Clinical Modules + Critical Thinking Modules." Foundational modules retain core content such as fundamental theories of Traditional Chinese Medicine (TCM) and overviews of the Four Diagnostic Methods. Clinical modules incorporate real hospital cases categorized as "Common Diseases—Complex Diseases—Emergencies," compiling the textbook Clinical Case Collection of TCM Diagnostics to systematically teach the application of the Four Diagnostic Methods and holistic concepts in diagnosis. ② Blended Online-Offline Instruction: Develop SPOC (*Small Private Online Course*) courses on China University MOOC platforms, uploading resources like clinical procedure videos and renowned physician consultation recordings to establish a closed-loop process: "online preview → offline practical training → online review." Drawing inspiration from universities' "TCM Diagnostic Pod" virtual simulation labs, utilize VR technology to simulate tongue and pulse diagnosis scenarios, enabling students to practice observation, auscultation, inquiry, and palpation skills in a three-dimensional environment. ③ Integration of Ideological and Political Elements: Incorporate the spirit of "Great Physician, High Integrity" and medical ethics into the curriculum. Invite renowned experts to deliver lectures on "Clinical Reasoning and Medical Ethics," fostering the simultaneous development of professional competence and ethical professionalism.

(2) Building a "School-Hospital Integration" Practical Platform. ① Tiered

Practical Training System: Establish a three-tier platform comprising "On-campus Simulation—Hospital Internship—Primary Care Practice." Freshmen undergo virtual simulation training; sophomores begin clinical shadowing at affiliated hospitals (twice weekly); juniors participate in primary care outreach projects, engaging in common disease diagnosis and treatment to enhance job competency. ② Holistic Mentor-Disciple Education: Implement a dual-mentor system where each student is assigned one academic mentor on campus and one clinical mentor at the hospital. Clinical mentors guide students in shadowing and medical record writing starting in sophomore year, conducting weekly case discussions to transmit clinical reasoning through hands-on instruction.

(3) Building a "Dual-Teacher Collaboration" Faculty Team. ① Two-Way Exchange Mechanism: University faculty must participate annually in clinical consultations for complex cases and collective lesson planning at hospitals; hospital physicians must undergo teaching competency training, obtain teaching certification, and undertake theoretical teaching responsibilities. ② Collaborative Teaching Teams: Establish teaching teams comprising "university faculty + clinical physicians + renowned TCM experts" to jointly develop textbooks, design case studies, and conduct teaching and research activities.

(4) Establishing a "Competency-Oriented" Assessment System. ① Diversified Assessment Content: Theoretical assessment accounts for 40% (including case analysis questions), practical skills assessment accounts for 30% (four diagnostic methods and pattern differentiation), and clinical reasoning assessment accounts for 30% (case analysis and treatment plan design). Referencing the TCM clinical skills assessment standards, the focus is on evaluating the integration of the four diagnostic methods, accuracy of pattern differentiation, and rationality of prescriptions. ② Process-Based Evaluation: Incorporate assessment of clinical shadowing frequency, quality of medical record documentation, and performance in case discussions. Implement a three-dimensional evaluation model combining "student self-assessment + peer mentor evaluation + patient feedback." ③ Long-Term Feedback Mechanism: Conduct teaching satisfaction surveys each semester to gather feedback from students, faculty, and clinical institutions, dynamically optimizing teaching plans.

4. Practical Outcomes of Teaching Models

(1) Students' clinical thinking ability has been significantly improved In this study, all students from two randomly selected classes of the Traditional Chinese Medicine (TCM) program, Grade 2022, were divided into an experimental group (implementing the medical-educational collaboration model) and a control group (adopting the traditional teaching model), with 60 students in each group. The experiment lasted for one academic year. Under the traditional teaching model, course instructors only delivered textbook-based theoretical knowledge in class, supplemented by appropriate practical training. Results of the standardized assessment at the end of the semester showed that: The experimental group achieved

an 82.3% accuracy rate in comprehensive four diagnostic methods and a 78.5% accuracy rate in syndrome differentiation, significantly higher than the control group's 65.7% and 59.2% respectively; The award-winning rate of the experimental group in the Guangxi Undergraduate Medical Students Clinical Skills Competition (TCM Category) was 30% higher than that of the control group.

(2) Teaching satisfaction has been continuously improved. According to the questionnaire survey results: 89.7% of the students in the experimental group believed that "this model helps understand the correlation between TCM theories and clinical practice"; 85.3% of them expressed satisfaction with the arrangement of clinical practice. The survey report from clinical tutors indicated that compared with the control group, students in the experimental group performed better in independent tasks such as patient inquiry and medical record writing.

(3) Remarkable achievements have been made in faculty development. Through the two-way communication mechanism, more faculty members have been promoted to professional titles above Associate Chief Physician/Associate Professor, and a number of clinicians have been awarded the title of Outstanding Teaching Tutor. Two publications by the teaching team—TCM Clinical Case Studies and Lectures on Selected Classic Prescriptions—have been incorporated into the university's self-compiled textbook series.

5. Discussion

Traditional Chinese Medicine Diagnostics serves as a core course within the TCM discipline, bridging foundational studies with clinical practice and linking theoretical knowledge to clinical application. The primary teaching objectives of this course are to enable students to understand and master the fundamental principles and guidelines of Chinese diagnosis, acquire the essential knowledge and skills of the Four Examinations and pattern differentiation, and cultivate their ability to apply Chinese medical thinking to solve practical problems. Based on years of teaching experience and student feedback analysis, this course is considered "difficult to teach" and is also widely reported by students as "difficult to learn."

Medical-Educational Collaboration as the Core Pathway for Cultivating Clinical Thinking. The formation of TCM clinical thinking must be grounded in clinical practice. The medical-educational collaboration model breaks down barriers between theory and practice through "university-hospital partnerships, faculty exchanges, and resource sharing." Practice demonstrates that early clinical exposure enables students to hone their four diagnostic skills and deepen their pattern differentiation thinking within authentic clinical settings. Virtual Simulation Technology as a Vital Supplement to Practical Instruction. Addressing limited clinical resources, virtual training platforms like the "TCM Diagnostic Pod" simulate complex cases, enabling "repeated practice with zero-risk exposure." However, virtual technology cannot replace real clinical settings. A combined approach of "virtual training + clinical shadowing" should be maintained to avoid prioritizing

technical skills over clinical experience.

Through the implementation of this model, we can not only enhance students' interest in learning TCM but also cultivate their self-directed learning abilities. Interest is the best teacher, and what most captivates medical students in the classroom are authentic clinical cases and real-world diagnostic services. Therefore, TCM diagnostic instructors should transform textbook content into practical teaching scenarios to spark students' curiosity. Simultaneously, appropriately utilizing feedback on patient treatment outcomes can boost medical students' sense of recognition and accomplishment toward TCM, thereby further stimulating their learning enthusiasm. Furthermore, repeated training cultivates students' independent learning abilities. It also enhances their clinical reasoning skills in TCM and strengthens their professional competence. The development of TCM skills is grounded in constructing rational, effective, and sound declarative and procedural knowledge of TCM. Targeted training serves as the method and pathway to achieve these objectives. Educational practice reveals that rapid improvement in clinical reasoning primarily stems from applying theoretical guidance to clinical practice and repeated training. Moreover, it is precisely through these cognitive activities that theoretical understanding deepens and connections between concepts strengthen. During training, theoretical knowledge is applied to guide practice, fostering effective clinical reasoning patterns and methodologies. This enhances the ability to solve practical clinical problems and strengthens the competence required to address complex issues in clinical settings.

6. Conclusion

The "Medical-Educational Synergy" teaching model in Traditional Chinese Medicine (TCM) diagnostics effectively addresses the disconnect between theory and practice in traditional teaching through curriculum restructuring, joint development of practical platforms, integration of faculty resources, and assessment mechanism reform. This approach significantly enhances students' clinical reasoning abilities in TCM. While aligned with the principles of TCM talent cultivation, implementation challenges persist: First, the university-hospital collaboration mechanism remains imperfect, with some hospitals exhibiting a tendency to prioritize clinical care over teaching. Second, the high cost of virtual training equipment hinders its widespread adoption in grassroots institutions. Third, assessment criteria for clinical reasoning lack specificity and exhibit significant subjectivity. Therefore, future efforts should focus on establishing long-term university-hospital collaboration mechanisms, securing policy support from higher authorities, increasing investment in virtual training resources, and developing standardized clinical reasoning assessment scales in collaboration with industry experts to enhance evaluation objectivity.

This study was conducted only in a single institution with a small sample size, which may limit the generalizability of the research results. In the next step, the research team intends to moderately extend the "medical-education integration"

teaching model to other majors across the university as well as other medical colleges and universities, so as to further explore the potential application value of this model in other institutions.

Funding

Guangxi Vocational Education Teaching Reform Research Project (GXGZJG2024B196); Guangxi University of Chinese Medicine Educational Reform and Research Project(2024B002); Undergraduate Education and Teaching Reform Project of Guangxi Medical University (2025XJGYC56).

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Chen, S. T., Zhang, X., Zhi, D. M. et al. (2020). Preliminary Study on the Construction Path of "Double-Qualified" Teachers' Team for Acupuncture and Tuina Major in Higher Education Institutions of Traditional Chinese Medicine. *Education and Teaching Forum, 25,* 43-44.

Xu, J. (2022). Guangxi Issues Several Policies and Measures on Accelerating the Characteristic Development of Traditional Chinese Medicine and Zhuang-Yao Medicine. *Journal of Traditional Chinese Medicine Management*, *30,* 54.

Li, D. Y. (2016). Exploration on the Reform Path of Deepening the Training of Traditional Chinese Medicine Talents through the Integration of Medical and Educational Institutions. *People's Tribune, 8,* 170-171.

Li, R. K., Wan, S. F., Wang, X. R. et al. (2022). Innovation and Practice in the Teaching of Diagnostics of Traditional Chinese Medicine. *Journal of Gansu University of Chinese Medicine, 39,* 103-106.

News Network of Beijing University of Chinese Medicine (2024). *China Education News reports Beijing University of Chinese Medicine's Deepening of the Whole-Process Teacher-Apprenticeship System and the Reform of the Integration of Medical and Educational Institutions*. https://xww.bucm.edu.cn/mtjj/8180f0662eac485c8acfff21cab1181e.htm

Ouyang, Y., Xu, K., Yan, P. et al. (2025). Practical Innovation of Talent Training Mode for Clinical Medicine Major under the Background of the Integration of Medical and Educational Institutions. *China Health Industry, 22,* 1-3+15.

Xing, S. R., Dai, C. X., Qin, Y. et al. (2020). Exploration on the Cultivation of Clinical Thinking Ability in the Practical Teaching of Diagnostics of Traditional Chinese Medicine. *Medical Diet and Health, 18,* 16-17.

Zhang, L. P. (2023). Research on the Standards and Practice of Clinical Skill Assessment in Traditional Chinese Medicine. *Education of Chinese Medicine, 42,* 45-48.