

Research on the Experimental Teaching System of Traditional Rehabilitation Therapeutics Based on Curriculum Ideological and Political Education and 'Double Innovation' (Innovation and Entrepreneurship) Education Concepts

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ABSTRACT

The Traditional Rehabilitation Therapeutics course constructs a trinity experimental teaching reform model of "ideological and political guidance · professional knowledge · double innovation capabilities," deeply integrating ideological and political education with "double innovation" education. Rooted in confidence in traditional Chinese medicine (TCM) culture, the course forms an educational framework of "three objectives" (quality objectives, knowledge objectives, and capability objectives) by excavating ideological and political elements such as "practicing medicine to help the world" and "great medical integrity" in traditional medicine, combined with innovation and entrepreneurship practices. Reform measures include optimizing teaching content, innovating teaching methods, strengthening interdisciplinary faculty capabilities, and constructing a diversified evaluation system, aiming to cultivate compound rehabilitation talents with both TCM thinking and "double innovation" capabilities. Practices show that the course effectively enhances students' professional sense of mission, scientific research innovation capabilities, and clinical practice levels, providing talent support for the inheritance and innovation of TCM and the Healthy China strategy.

KEYWORDS

Traditional Rehabilitation Therapeutics; curriculum ideological and political education; double innovation education; experimental teaching

1 Introduction

Traditional Chinese medicine (TCM) is a treasure of Chinese civilization, with unique advantages in disease prevention, treatment, and rehabilitation. This discourse injects contemporary connotations into traditional rehabilitation medicine education. Currently, the Opinions on Promoting High-Quality Development of Innovation and Entrepreneurship to Create an Upgraded Version of 'Double Innovation' and the 14th Five-Year National Health Plan clearly state the need to strengthen the ideological and political guidance and innovation capability cultivation in medical education.

As a core course in the rehabilitation therapy major, Traditional Rehabilitation Therapeutics covers characteristic techniques such as acupuncture, tuina (Chinese massage), and Baduanjin (a health qigong), serving as an important carrier for inheriting TCM culture. However, the traditional teaching model has three main shortcomings: first, insufficient excavation of ideological and political elements, failing to fully reflect the values of "great medical integrity" in TCM; second, weak innovation and entrepreneurship awareness among students, lacking practical ability to integrate traditional therapies with modern technology; third, insufficient interdisciplinary faculty, making it difficult to meet the needs of "new medical disciplines" for cultivating compound talents. Therefore, this study takes experimental teaching as a breakthrough point to construct a reform path of "ideological and political guidance-professional knowledge-double innovation capabilities" and explore the modern transformation of traditional medical education.

2 The Integration Logic of Curriculum Ideological and Political Education and 'Double Innovation' Education

2.1 Multi-Dimensional Infiltration of Ideological and Political Elements

Traditional medicine contains philosophical ideas of "harmony between man and nature" and ethical concepts of "benevolence and helping the world," serving as a natural carrier for curriculum ideological and political education. According to different course contents, ideological and political elements can be integrated into teaching.

2.1.1 Establishing Cultural Confidence in Traditional Rehabilitation

During the development of traditional rehabilitation therapeutics, there are many excellent cases. Nobel laureate Professor Tu Youyou once mentioned gaining inspiration from the Handbook of Prescriptions for Emergency Treatment written 1,700 years ago, leading to the efficient preparation of artemisinin that has benefited the world. By integrating small stories of "famous doctors and masters" into classic cases and combining them with modern teaching concepts,

students can establish confidence in TCM culture and cultivate spirits of courage, dedication, benevolence, and innovative inheritance, becoming excellent rehabilitation talents with professionalism, sentiment, and responsibility.

2.1.2 Upholding Inheritance of Traditional Rehabilitation Culture

Zhang Zhongjing's Treatise on Febrile and Miscellaneous Diseases from the Han Dynasty records cardiopulmonary resuscitation and enema, which are the earliest known records in the world. Hua Tuo's Five-Animal Exercises from the Han Dynasty are the earliest existing fitness and rehabilitation guidance techniques. Sun Simiao's Essential Prescriptions for Emergencies from the Tang Dynasty records "scallion tube catheterization," more than 1,000 years earlier than catheterization in Western medicine. These techniques fully demonstrate the profound medical wisdom of ancient Chinese. For example, the modern rehabilitation technique "fascia knife" is highly similar to the traditional "gua sha" therapy in both tools and methods, but "gua sha" can be traced back to the Effective Prescriptions from Generations of Physicians by Wei Yilin, a Yuan Dynasty physician, nearly 1,000 years earlier than the "fascia knife."

2.1.3 Experiencing the Remarkable Efficacy of Traditional Rehabilitation

In the teaching process of acupoint clearing, the teaching of examples and LBL PBL CBL (Teaching Problems and Cases) three-track mode^[1] teaching is applied: the successful cases of rescuing patients with chest paralysis (myocardial infarction) by kneading the Neiguan acupoints are listed, so that students can experience the significance of saving lives by pressing the Neiguan acupoints, so that students can experience the significance of saving lives by racing against time, give full play to the unique advantages and curative effects of traditional rehabilitation while understanding the true meaning of life, cherish the current good time in college, learn real knowledge, and practice real skills. The three-track model^[1] teaching applies students who are unwell to the classroom through the procedures of simulating patients' medical treatment, that is, (looking, smelling, asking, and cutting), and through syndrome differentiation and treatment and overall concepts, students who do not appear unwell are treated with acupuncture, so that students can simulate and experience the real clinical environment and understand the rapid efficacy of traditional rehabilitation.

2.1.4 Learning the Spirit of Dedication

Wang Qingren, a physician of the Qing Dynasty, completed the diagnosis of "warm rash dysentery" through dissection and detailed comparison of more than 30 corpses, and completed the correction of the viscera diagram, which laid the foundation for the anatomical research of later generations.

2.1.5 Strengthening Responsibility for Traditional Rehabilitation

By introducing the history of TCM in preventing and treating epidemic diseases and the unique role of the "holistic concept and syndrome differentiation" in treatment, as well as the important role of TCM acupuncture, herbal medicine, and traditional exercise therapies in fighting epidemic situation, the characteristics and advantages of integrated Chinese-Western medicine in epidemic prevention and control are highlighted. Meanwhile, typical cases of traditional rehabilitation exercise therapies in the prevention and rehabilitation of epidemic situation reflect the responsibility, mission, and commitment of traditional rehabilitation.

2.2 Practical Paths of 'Double Innovation' Education

The Traditional Rehabilitation Therapeutics course integrates "double innovation" education to cultivate students' adaptability to social development. Teaching reforms align with the disciplinary characteristics of combining traditional rehabilitation therapeutics with practical operations, including optimizing teaching content, innovating teaching methods (three-track model^[1], SSP standardized patients^[2]), strengthening interdisciplinary faculty capabilities, and constructing a diversified evaluation system, providing theoretical references and practical experience for innovative rehabilitation medicine education. Based on TCM theory, traditional rehabilitation therapeutics emphasizes functional recovery and holistic intervention, but its teaching model has long been dominated by "lecture-style" instruction, lacking systematic cultivation of students' innovative thinking and entrepreneurial capabilities. With the advancement of the "Healthy China" strategy, rehabilitation medicine needs to cultivate compound talents proficient in professional techniques and equipped with innovation and entrepreneurship capabilities. "Double innovation" education helps students enhance their core competitiveness by stimulating innovative thinking and entrepreneurial practice capabilities, enabling them to address clinical problems, develop new rehabilitation technologies, and explore new rehabilitation service models.

3 Experimental Teaching Design of Curriculum Ideological and Political Education and 'Double Innovation' in Traditional Rehabilitation Therapeutics

Traditional Rehabilitation Therapeutics consists of 32 class hours across 8 sections. Integrating experimental teaching content with curriculum ideological and political education and "double innovation" teaching is a mission for college teachers in the new era. Xu Weidan et al.^[3] argue that the Traditional Rehabilitation Therapeutics course achieves student advancement through three objectives. By integrating the reform path of "ideological and political guidance · professional knowledge · double innovation capabilities" with the three teaching objectives, the cultivation of rehabilitation talents is realized.

Talent cultivation is achieved through three teaching objectives:

Quality Objectives: Combining real clinical cases in teaching to consolidate students' application of professional knowledge, stimulate their love for rehabilitation, initially form professional values centered on maintaining and promoting human health, inspire benevolence toward patients, and cultivate their comprehensive professional capabilities and spirit of saving lives through independent rehabilitation treatment for patients.

Knowledge Objectives: Master the etiology, nature, and location of common rehabilitation diseases, apply the principle of "syndrome differentiation and rehabilitation," formulate rehabilitation treatment plans for patients, and skillfully use traditional rehabilitation techniques (e.g., acupuncture, tuina, cupping, gua sha) to relieve patients' pain; leverage the "preventive treatment of disease" concept in traditional rehabilitation therapeutics to provide health education for disease prevention.

Capability Objectives: Gradually train students to proficiently use traditional rehabilitation knowledge to relieve patients' physical discomfort, develop capabilities in syndrome differentiation, diagnose common diseases, and skillfully apply rehabilitation tools and techniques. Cultivate "innovation capabilities and entrepreneurial thinking" by discerning "disease severity, urgency, and duration," applying knowledge to innovate in rehabilitation practice, and integrating entrepreneurial thinking into future employment. Simultaneously, foster effective communication and collaboration with patients and rehabilitation teams, critical thinking to solve problems, and the ability for autonomous and lifelong learning.

Course Example: When teaching acupoints, a successful case of rescuing a chest bi patient by massaging the Neiguan acupoint (reported on television) integrates the three objectives:

Quality Objectives: Allow students to experience the significance of time-critical rescues in saving lives, comprehend the true meaning of life, appreciate the unique advantages and efficacy of traditional rehabilitation, and motivate them to cherish university time and acquire genuine skills.

Knowledge Objectives: The key content of acupoint courses is their location and functional indications. Special-effect acupoints show remarkable efficacy in treating specific diseases. Cases and hands-on practice can enhance students' interest. With 365 commonly used acupoints in the human body, memorization and application are challenging for rehabilitation therapy students. Focusing on limb rehabilitation (common in patient recovery), acupoint applications are emphasized in the limbs to highlight key points and stimulate interest.

Capability Objectives: As society ages, elderly patients often have complex conditions. Learning acupoints broadens students' treatment perspectives and methods for patient rehabilitation. Using the three-track model^[1], simulate rehabilitation clinic operations through case analysis, guiding students to design rehabilitation plans using traditional acupoint therapy. While applying classroom discussion and hands-on practice, integrate theoretical knowledge with the characteristics of behavioral rehabilitation to achieve organic unity. Divide students into groups to enhance their understanding of disease diagnosis, treatment, and rehabilitation through virtual simulation and scenario reproduction experiments. Introduce an innovation and entrepreneurship module, such as the case of "'Five Tones' therapy and acupoints in innovative design of cardio-pulmonary function rehabilitation devices" for "post-acute myocardial infarction rehabilitation patients" after ideological and political education. The "Five Tones" therapy, an effective non-invasive method for regulating visceral functions, combined with acupoints in rehabilitation equipment, can accelerate recovery and provide "new ideas" for patient rehabilitation, guiding students to "learn for application and apply what they learn."

After multiple rounds of teaching, Traditional Rehabilitation Therapeutics has formed mature teaching methods integrating ideological and political education and "double innovation" education, enabling students to learn spontaneously through "problem-oriented" approaches. Through continuous improvement of teaching methods, students are trained to inherit excellent traditional rehabilitation techniques, deeply reflect on and summarize modern rehabilitation medicine evaluation methods and treatments, develop evaluation scales more suitable for contemporary Chinese people, and imperceptibly cultivate their patriotism and social responsibility. The integration of modern theory and traditional rehabilitation has given rise to many famous doctors and representative academic ideas.

4 Cultivation of 'Double Innovation' Teacher Competencies

Teachers' professional capabilities are crucial for achieving the course's training objectives. The inherent characteristics of Traditional Rehabilitation Therapeutics require teachers to master clinical medicine, TCM, and rehabilitation therapy knowledge, as well as be familiar with theories and methods from related disciplines like psychology. By keeping up with developments in rehabilitation through clinical practice and empirical research, introducing typical clinical practices and scientific theories into the classroom, and forming a closed-loop teaching research of "problem-question-answer," teachers help students handle emergencies and inspire their passion for traditional rehabilitation medicine, thereby enhancing students' enthusiasm for the course. Flexible use of teaching methods such as case analysis and group discussions improves the effectiveness of ideological and political and "double innovation" teaching. Teachers should deeply understand and identify with socialist core values, be familiar with ideological and political theories, and pay attention to national medical policies and spirits before, during, and after classes. In "double innovation" teaching design, teachers should inspire students' rehabilitation thinking abilities and carry out relevant innovation and entrepreneurship practices through rehabilitation theory and practical skills. For example, teachers can select suitable research projects based on students' conditions, teach them how to write project proposals and research reports, and guide them to publish research results in journals, apply for college students' innovation and entrepreneurship training programs, or participate in professional competitions like the China International "Internet+ " College Students Innovation and Entrepreneurship Competition. Curriculum integration enriches teaching links and realizes the organic transformation of teaching achievements.

5 Conclusions

5.1 Improved Teaching Outcomes

A comparative analysis was conducted on rehabilitation therapy students from the 2020 and 2021 classes of the Department of Rehabilitation Therapy, School of Nursing, Beihua University. Final grades included usual assessments (40%) and final assessments (60%). Usual assessments comprised Baduanjin evaluation (30%), average scores of 8 experimental reports (30%), and classroom questioning (40%); final assessments included medical record writing (30%), practical operation assessments (30%), and oral exams (40%). The evaluation combining theoretical knowledge and practical abilities made the course grading fairer and more objective. Although there were differences in class sizes between the two grades, both met the teaching syllabus requirements. The 2020 class used case-based teaching, while the 2021 class added ideological and political and "double innovation" content, with discussions, theoretical quizzes, and practical assessments for each experimental class via the Xuexitong APP. The average score of the experimental group (2021 class) was 83, compared to 80 for the 2020 class, indicating the effectiveness of innovative teaching, though further improvements are needed.

5.2 Enhanced Innovation Capabilities

Through medical record presentations, students improved their PPT production and public speaking skills. The number of "Double Innovation" projects in the rehabilitation therapy major increased from 3 groups in 2020 to 5 groups in 2021, with one group obtaining a provincial-level project using knowledge from Traditional Rehabilitation Therapeutics.

5.3 Promoted Disciplinary Development

Integrating ideological and political education with "double innovation" education in the teaching practice of Traditional Rehabilitation Therapeutics has further enriched the development path of teaching research, enhancing the "three-objective" cultivation of rehabilitation technology talents in the new era. By leveraging the collaborative education mechanism of ideological and political education and "double innovation" education, and focusing on the organic integration of ideological and political education, course materials, teacher capabilities, teaching content, course evaluation, and the "double innovation" integration system, high-quality rehabilitation talent cultivation is achieved.^[4]

5.4 Extended Social Services

Traditional rehabilitation features convenient diagnosis and treatment with remarkable efficacy, making it uniquely suitable for community rehabilitation. As community rehabilitation in China is still in its infancy, traditional rehabilitation techniques are more adaptable to its development. Through continuous promotion by rehabilitation professionals, the social influence of the rehabilitation profession will gradually increase, highlighting the importance of rehabilitation in

serving society.

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