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Preliminary Study on the Training Mode of Chinese Pharmacy Professionals Based on the National Standard of Teaching Quality

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Abstract With the promulgation of the *National Standard for the Teaching Quality of Undergraduate Majors in Ordinary Colleges and Universities*, the state has made clear regulations on the standard for the cultivation of Chinese pharmacy talents. Based on their own actual conditions, major colleges and universities have implemented different talent training modes, including talent training modes of running talent classes, "2 + 1 + 1", "Chinese Medicine Research Practice Class", employment-oriented professional talent training mode, three-level three-type diversified talent training mode, and talent training mode oriented with adapting to the characteristics of ethnic regions. Various talent training modes have different training objectives, and corresponding training programs are formulated to meet the requirements of the *National Standard for the Teaching Quality of Undergraduate Majors in Ordinary Colleges and Universities*. In addition, according to the notice on *Solidly Promoting Labor Education into the "National Standard for the Teaching Quality of Undergraduate Majors in Ordinary Colleges and Universities"* issued by the Department of Higher Education of the Ministry of Education, the introduction of labor education to the teaching of Chinese pharmacy majors will be a trend, and Chinese pharmacy professionals are required to achieve comprehensive and coordinated development of morality, intelligence, physique, beauty, and labor. How to integrate labor education with high quality and high efficiency into the training of Chinese pharmacy professionals is a problem that major universities will think about.

Key words Teaching quality, National standard, Traditional Chinese medicine, Talent training modes, Labor education

1 Introduction

With the rapid development of China's economy, various industries have different needs for various types of talents. In order to adapt to the development of higher education under the new situation, in July 2010, the Ministry of Education issued the *National Medium and Long-term Education Reform and Development Plan Outline (2010–2020)*, which is China's first educational planning outline since the new century, and the emphasis on education has embarked on a new journey. In 2013, the Ministry of Education officially launched the customization of the *National Standard for the Teaching Quality of Undergraduate Majors in Ordinary Colleges and Universities*. After 5 years of hard work, in January 2018, the state issued the *National Standard for the Teaching Quality of Undergraduate Majors in Ordinary Colleges and Universities*. It covers 92 undergraduate majors and 587 majors, involving more than 56 000 majors in colleges and universities across

the country, and has become the basic program guiding the construction and reform of China's higher education.

The promulgation of the *National Standard for the Teaching Quality of Undergraduate Majors in Ordinary Colleges and Universities* has brought new definitions and characteristics to the talent training model of Chinese universities. The current situation of higher education development and the huge development differences among colleges and universities indicate that the methods and measures to implement the standard are not mature enough. Only by facing up to this difference and adopting diversified perspectives and thinking can the characteristics of colleges and universities be discovered from the similarity of undergraduate education. School-level undergraduate professional teaching quality standards suitable for the characteristics of colleges and universities should be formulated to promote the continuous improvement of teaching level in colleges and universities. Therefore, how to construct a distinctive talent training system in combination with the teaching quality standard of undergraduate majors has become a new challenge and problem for higher education.

The research on talent training modes is mainly to solve the problem of what kind of talents to cultivate and how to cultivate talents. An ideal medical talent training mode should reflect the development trend of contemporary medical disciplines and the basic requirements of today's society for talent quality, reflect the characteristics and advantages of the host school, and integrates knowledge transfer, ability training and quality improvement^[1]. As of May 31, 2022, there were a total of 3013 colleges and universities in the country, including 2 759 ordinary colleges and universities (containing 1 270 undergraduate colleges and 1 489

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vocational (specialist) colleges) and 254 adult colleges and universities^[2]. Guided by the theory of traditional Chinese medicine, Chinese pharmacology studies the basic theory of traditional Chinese medicine, resource utilization, material basis, mechanism of action, application mode, quality control, new drug research, development and production, safety and effectiveness evaluation, marketing and management, and other relevant theories, techniques, methods and applications. For the cultivation of Chinese pharmacy professionals, there are currently 164 medical colleges and universities in China, including 106 undergraduate colleges and 58 junior colleges. Its talent training goals should not only reflect the characteristics of the local regional talent market demand and the school's school-running characteristics, but also have high-quality applied talents with certain theoretical foundation and practical ability.

2 Training mode of running talent classes

Beijing University of Chinese Medicine has cultivated professional, applied and compound talents with its own characteristics, and has launched the Excellent Chinese Pharmacist Class (4+2) and the Shizhen Chinese Medicine Class (4+4), further innovating the training mode of Chinese pharmacy professionals. The purpose of holding the Excellent Chinese Pharmacist Class is to cultivate senior professionals in Chinese pharmacy with full service capabilities and compound talents who can engage in clinical rational drug use guidance and research in the field of medicine. The Shizhen Chinese Medicine Class aims to cultivate elite talents who master advanced technologies and methods in the field of life sciences, have an international perspective and high-level traditional Chinese medicine (TCM) research capabilities, and can engage in related work in the fields of Chinese medicine teaching, scientific research, production, inspection, circulation and use at home and abroad^[3].

3 "2+1+1" talent training mode

Hunan University of Chinese Medicine divides the four-year undergraduate study of Chinese pharmacy into three stages to establish a new "2+1+1" talent training mode. The first stage "2" includes the first and second grades, which implement a unified teaching process and build a basic curriculum platform. Basic courses are composed of public basic courses and professional basic courses to meet the training goal of "thick foundation". The second stage "1" is the third grade, which realizes the differentiation of professional directions and carries out "modular" teaching. "Module courses" are composed of professional core courses and professional orientation courses. The third stage "1" is the fourth grade, and students carry out professional practice and graduation practice. The "2+1+1" talent training mode aims to construct a talent training model for TCM professionals in local TCM undergraduate colleges by clarifying training objectives, adjusting the curriculum system, and reforming teaching methods and assessment methods from the perspectives of actively adapting to social

development and promoting students' personality development^[4].

4 Talent training mode of Chinese Medicine Research Practice Class

The talent training mode of "Chinese Medicine Research Practice Class" of Jiangxi University of Chinese Medicine highlights the main body of students, focuses on cultivating students' thinking ability, learning ability, practical ability and innovation ability, and emphasizes the change of "teaching-centered" to "learning-centered"; it reforms the teaching plan of Chinese medicine major, and the curriculum is centered on comprehensive literacy and oriented by practical application, highlights the integration of applied courses and theoretical courses, emphasizes practical process research and formative evaluation, stimulate students' inner learning motivation and creative potential, and cultivate practical, innovative and entrepreneurial Chinese medicine talents with market competitiveness^[5].

5 Employment-oriented professional talent training mode

Tonghua Normal University divides all courses into three modules: general courses, basic subject courses, and professional course system, and then divides the professional elective courses in the professional curriculum system into pharmaceutical production, pharmaceutical research and development, pharmaceutical management and marketing, *etc.* It adopts the combination of "inviting in" and "going out", hires experts from pharmaceutical companies, extracts a number of issues related to enterprise production from the course content for students, leads students to practice in pharmaceutical companies, and hires technical experts from relevant positions to teach on the spot. Besides, it builds a systematic practical teaching system, integrates the original experimental course content of chemistry courses into the course Comprehensive Chemistry Experiment, and increases the number of practical teaching weeks; students will conduct production practice throughout the academic year of the senior year, and complete graduate thesis research work^[6].

6 Three-level three-type diversified talent training mode

Chengdu University of Traditional Chinese Medicine adopts a three-level knowledge and ability system; the knowledge system of Chinese pharmacy personnel training is divided into three levels, including basic knowledge learning, professional quality formation, and practical innovation ability improvement. Corresponding course modules are set up at each level to cultivate students' three-level knowledge and ability framework of solid foundation, refined specialty and strong ability.

Three-type diversified talent training mode; it accurately locates talent training goals to cultivate three-type talents of traditional Chinese medicine who possess the core values of socialism, take the inheritance and development of the cause of traditional

Chinese medicine as their own responsibility, have original thinking of traditional Chinese medicine, have solid theoretical knowledge of traditional Chinese medicine, and master modern science and technology and methods^[7-8].

7 Talent training mode oriented with adapting to the characteristics of ethnic regions

Guangxi University of Chinese Medicine has established a unique new training system for talents in traditional Chinese medicine, pays attention to the cultivation of traditional Chinese medicine thinking, and integrates the cultivation of Zhuang and Yao ethnic medical thinking; it carries out multi-channel and multi-angle infiltration training through a series of measures to improve students' practical ability under the guidance of traditional Chinese medicine thinking and Zhuang and Yao ethnic medical thinking and form a distinctive talent training model for Chinese medicine professionals. Special courses are added to the curriculum system. For example, special courses such as Introduction to Zhuang Medicine, Zhuang Medicine, Zhuang Medicine Resource Science, Zhuang Medicine Prescriptions and Ocean Traditional Chinese Medicine have been added in compulsory courses and restricted elective courses. For the teaching practice platform, the Guangxi Characteristic Medicinal Materials Research Exhibition Hall and the outdoor Xianglu Medicine Garden, Yaowang Valley and Yaoshi Mountain have been established, forming an overall training system for Chinese Pharmacy and Zhuang and Yao Pharmacy. The increase of experimental training courses can show the content of internships such as Jingxi Dragon Boat Medicine Market or Gongcheng Medicine Market. Zhuang and Yao ethnic medicine and other ethnic medicine courses are taught in combination with the theoretical basis of characteristic Zhuang medicine theories such as "Longlu", "Huolu", "Gudao", "Qidao" and "Shuidao" and the principles of prescription and medication. The use of Zhuang medicine is characterized by fresh medicine, and a single use is more; Yao medicine is based on the classic old class medicine of "Wuhu, Jiuniu, Shibazuan, and Qishierfeng", and medicated baths are as the characteristics of pharmacy^[9].

8 Conclusions

According to the development needs of traditional Chinese medicine and traditional Chinese medicine industry, as well as the training rules of traditional Chinese medicine talents, deepening the reform of the education and teaching of traditional Chinese medicine major, improving the competence of traditional Chinese medicine talents, meeting the social demand for high-level, high-quality traditional Chinese medicine talents, and practically pushing the development of Chinese medicine higher education to a new height are the primary tasks of every TCM college.

In July 2020, the Ministry of Education issued a notice on the issuance of the *Guidelines for Labor Education in Universities, Middle and Primary Schools* (Trial) [Textbook (2020) No. 4], which requires that students in colleges and universities should

strengthen the education of the Marxist concept of labor, focus on innovation and entrepreneurship to carry out production labor and service labor in combination with disciplines and majors, accumulate professional experience, and cultivate creative labor ability and legal labor awareness of honesty and trustworthiness. In 2022, the Department of Higher Education of the Ministry of Education issued a notice on *Solidly Promoting Labor Education into the "National Standard for the Teaching Quality of Undergraduate Majors in Ordinary Colleges and Universities"*, emphasizing the importance of labor education in the national standard for the teaching quality of Chinese pharmacy majors. It is not difficult to see that the introduction of labor education to the teaching of Chinese pharmacy majors will be a trend, and Chinese pharmacy professionals are required to achieve comprehensive and coordinated development of morality, intelligence, physique, beauty, and labor. How to integrate labor education with high quality and high efficiency into the training of Chinese pharmacy professionals is a problem that major universities will think about.

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