### Research and Practice on Practical Teaching Mode and System of Chinese Pharmacy in Higher Agricultural Colleges

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**Abstract:** Practical teaching is an important part of the teaching system of undergraduate specialty of traditional Chinese medicine, and it is an important teaching link to cultivate students' practical ability and improve students' quality in an all-round way. Strengthening the practical link in teaching can not only consolidate the theoretical knowledge that has been learned, but also cultivate students' ability to combine theory with practice, analyze and solve problems, and improve their sense of innovation. Cultivate students' scientific way of thinking, develop good scientific literacy and the spirit of independently exploring the truth, so as to lay a solid foundation for students to enter the work position.

#### **1. Introduction**

The major of traditional Chinese medicine in our school is a relatively young major. In 2004, we began to recruit the first batch of undergraduate students majoring in traditional Chinese medicine, and there is a lack of practice bases inside and outside the school. So far, there are five graduates and two grades in school. After several years of research on the practical teaching of traditional Chinese medicine, we found that there are the following problems in the practical teaching of traditional Chinese medicine: the professional experimental instruments are outdated and the practice space is limited; most of the practical teaching courses are set up with reference to other colleges and universities. The practical teaching syllabus is "large, empty and rough", and the practice content is set according to the specific situation. At the beginning of the construction, the number of students is large, so it is difficult to complete the in-depth production practice; the internship time is concentrated in the junior and senior grades, and the internship time is short [1].

In view of the lack of a systematic practice teaching system suitable for the specialty of traditional Chinese medicine in agricultural colleges and universities, a practical teaching model of professional experiment, course practice, production practice and graduation design is established to give full play to students' subjective initiative and creativity in practice teaching, stimulate students' innovative consciousness, cultivate students' ability of combining theory with practice, and improve students' comprehensive quality. Making great efforts to improve the practical teaching environment, renew the practical teaching content, broaden the practical teaching ways and perfect the practical teaching system are the necessary measures for the reform of traditional Chinese medicine major in agricultural colleges and universities.

### 2. Update Professional Experimental Content and Develop Students' Experimental Skills Application Ability

According to the characteristics of agricultural colleges and universities, we constantly update the content of the experiment in the professional experiment, and design the professional experiment into an applied, innovative and comprehensive experiment. Cultivate students' ability to apply the theoretical knowledge of traditional Chinese medicine to production practice to solve practical problems. For example, in the chemical experiment of traditional Chinese medicine, the introduction of advanced microwave-assisted synthesizer into the chemical experiment of

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traditional Chinese medicine will not only contribute to the establishment of green laboratory, but also give students more opportunities to come into contact with new fields of science and technology. At the same time, the introduction of high-pressure reactor into the experiment can solve the problems of high cost and low yield in the process of catalytic synthesis, and the high-pressure synthesis is closer to the actual production [2]. The professional comprehensive experiments are as practical as possible, and the topics related to agriculture, life science and food science can make students feel useful and have the characteristics of this major.

# **3.** Reforming the Mode of Curriculum Practice and Cultivating Students' Professional Quality

The course practice offered by the major of traditional Chinese medicine in our school mainly includes traditional Chinese medicine chemistry and traditional Chinese medicine practice. These courses are based on centralized and decentralized practice models, respectively. The centralized practice mode takes the class as the unit, and the decentralized practice mode carries on the practice with the group as the unit. The practice time of each course is fixed, but the practice content is not fixed, according to the annual update of the teaching content and the development of traditional Chinese medicine, update the practice content. The comprehensive experimental contents include the synthesis and biological activity of botanical pesticides, the analysis of nutritional components of pumpkin, the extraction and purification of flavonoids from raspberry, etc., all of which combine the contents of food, environment and agriculture. Through the study of comprehensive experiments, students can consolidate the basic skills of experiments [3].

### 4. Expand the Scope of Production Practice and Increase Students' Opportunities for in-Depth Practice

In the practical teaching of traditional Chinese medicine, we encourage students to actively carry out off-campus scientific research practice under the leadership of teachers, and strive to explore the educational model of cooperative training between schools and enterprises. Actively carrying out off-campus scientific research practice and professional production practice is one of the important practical links in the training of traditional Chinese medicine professionals. We plan to make use of various channels to broaden students' internship opportunities and increase the number of internship units so that students can really participate in production practice [4]. First of all, the factory arranges technical personnel to carry out safety education in the factory, and introduces the basic situation of the practice factory through pictures, materials and teaching photos, so as to deepen the students' perceptual understanding of the pharmaceutical factory. Ask the relevant technical personnel of the factory to introduce the production process, equipment and testing methods of the relevant products; According to the actual situation of the factory, negotiate with the factory to arrange the students into groups to different production workshops and departments, and rotate posts in the internship process, so that students can do something and have something to learn, so as to ensure that our graduates, whether to enterprises at all levels or to scientific research institutions and research institutes, can become senior professionals with a wide range of knowledge, strong ability, and excellent quality.

#### 5. Strengthening Graduation Project and Cultivating Students' Comprehensive Ability

Undergraduate graduation design is a very important period to cultivate the innovative ability of traditional Chinese medicine students. Great attention should be paid to the training of graduation design stage. First of all, we have increased the time of graduation design from one semester to one academic year, so that students have sufficient time to complete their graduation project. In the topic selection of graduation project, we organize teachers to provide more than 20% to 30% of the number of graduates at the end of junior high school. Students choose topics freely on the basis of open experiments and innovative projects. Contact with the instructor and fully demonstrate the

experimental plan [5]. In the process of the implementation of the graduation project, we organize a group of experts to check the completion of the graduation project and the guidance of teachers, find problems in time, and ensure the quality of the graduation project. In the defense stage of the graduation project, the pre-examination of the thesis and the formal defense are carried out to strictly control the quality of the graduation project. This paper focuses on strengthening the ability of students' six modules, that is, the ability to analyze and solve problems, the ability to obtain information, the ability to experiment and investigate, the ability to use computers and foreign languages, the ability to write scientific research reports and papers, and the ability to express, communicate and work as a team.

## 6. Reforming Teaching Methods and Examination Methods to Ensure the Effect of Practical Teaching

In practical teaching, we should pay attention to student-centered, highlight the main position of students, appropriately reduce teachers' participation, change teachers' methods of preparing too many and too detailed methods for students, and cause students to rely too much on psychological status. highlight the cultivation of students in teaching design ideas and innovative ideas; At the same time, we should change the single assessment method that determines the achievement only through an experimental report, practice report or graduation thesis, and carry out the whole process of tracking the improvement of students' knowledge, skills and experimental attitude, so as to break the mode of one excellent to the end, avoid the phenomenon of high score and low ability, and actively encourage students with strong practical ability and active thinking to give full play to their advantages [6].

## 7. Determine the Link of Practical Teaching and the Uninterrupted Training Mode for Four Years

After entering freshman year, on the basis of students' understanding of their major and direction, students are encouraged to choose open experiments and initially participate in teachers' scientific research activities. Sophomores let students participate in the practice of college students' innovative projects, college students' innovative topics encourage students' innovative spirit, teachers play an auxiliary role, students can do their own interesting topics, master the basic ideas and methods of scientific research work [7]. After finishing the basic courses of each major, junior year participated in each practical course, and at the same time continued to participate in the scientific research work of teachers. At 04:00, according to the previous practice results, independent choice of subject direction, graduation practice. In this way, during the students' four years of college, the students' practical ability will be gradually trained, at the same time, the students' independent thinking and problem-solving ability will continue to improve [8].

#### 8. Conclusion

In summary, we intend to deepen the teaching reform by updating the professional experiment content, reforming the course practice mode, expanding the scope of production practice, strengthening the graduation project and so on. A new practical teaching system of professional experiment, curriculum practice, production practice and graduation project will be established.

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