

A Comparative Study on Traditional and Modern Apprenticeship Education of Traditional Chinese Medicine

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Abstract

General Secretary Xi Jinping has a good grasp of “what to teach, whom to teach and how to teach” in education. From the three aspects, we compared traditional and modern TCM teacher-inheritance education. We found that the modern teacher-inheritance model has inherited the traditional advantages and abandoned the traditional disadvantages. We believe that with the further deepening of the modern apprenticeship system in the teaching of traditional Chinese medicine, the training of Chinese medicine talents will get better and better.

Keywords

Inheritance, Apprenticeship, Traditional Chinese Medicine, Comparison

1. Introduction

During a visit to the China University of Political Science and Law on May 3, 2017, General Secretary Xi Jinping said that our education should be thoroughly studied and solved: what to teach, whom to teach and how to teach. From this point on, this paper compares “traditional Chinese medicine and modern Chinese medicine teacher education”.

2. Basic Concept

2.1. Apprenticeship Education

“Apprenticeship Education” refers to the academic or technical inheritance. In

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almost all fields before modern times in our country, teachers are taken as an important educational model. In the field of traditional Chinese medicine culture, the teacher has played a very important role. The key is to inherit the master's "true inheritance" and to continue the "essence" of the school. Traditional Chinese Medicine teaching is a traditional Chinese medicine education model characterized by the combination of theory and practice (Xu, 2018).

2.2. Maintaining the Integrity of the Specifications

We have divided our traditional Chinese medicine master bearing history into installments as follows (Figure 1).

2.3. Traditional Chinese Medicine Teacher Model

The traditional mode consists of three forms: inheritance of family learning, mentoring and receiving, and private inheritance. In modern mode, apart from private individuals, there are three main forms of public mentorship: mentorship education held by higher Chinese medicine colleges, continuing education held by high-level talents held by the government, and continuing education held by relevant Chinese medicine medical institutions.

1) Inheritance of Family Learning

That is, doctors trained by their families are called "physicians from a family for generations". Xu Zhicai, a famous doctor in the Southern and Northern Dynasties, had been a doctor for six dynasties since his grandfather and had eleven famous doctors. The Zhulin Temple in Xiaoshan has a history of more than 1000 years since the beginning of the monk doctor Gao Tan in 943 AD. Li Shizhen was determined by his family, and he eventually wrote the encyclopedia Compendium of Materia Medica.

2) Mentoring Practicum Mode

Mentoring education is the main form of TCM personnel training in ancient times. "Learn without a teacher without a master, the art without promise without pay". In the education of master and apprentice, teachers and apprentices should be selected in a two-way way. The students surpass the teacher. BianQue worshipped Master Changsangjun and became the "The king of Chinese medicine prescriptions", and established the method of pulse diagnosis, and wrote the

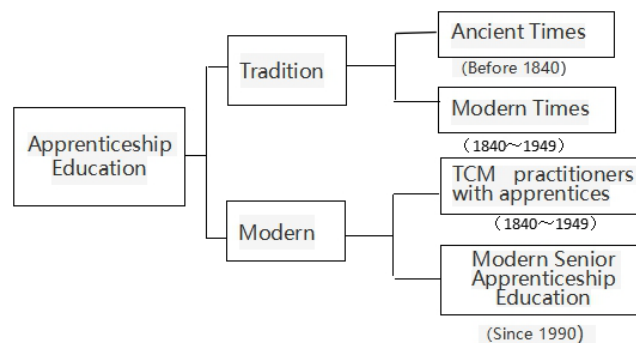


Figure 1. Stage chart of TCM apprenticeship education in China.

Nan Jing. Zhang Zhongjing paid homage to Zhang Bozu, and became a “medical sage”. He established the great method of syndrome differentiation and treatment, and passed on the Treatise on Typhoid Miscellaneous Diseases. Li Dongyuan paid homage to Zhang Yuansu, and created the “spleen and stomach theory”, which independently cultivated the school of medical thought of strengthening spleen. Ye Tianshi studied 17 teachers in 6 years and became the founder of febrile diseases.

3) Private Inheritance

“Private inheritance” refers to a kind of inheritance which is not taught by someone personally, but respects his knowledge and respects it as a teacher and is influenced by it. Zhang Congzheng privately inherited Liu Wansu and carried forward the three methods of “sweat, vomit and catharsis” to attack the cult by himself. Ge Hong used the free time of war and alchemy to pay homage to Liu Wansu, and wrote “Elbow Backup Emergency” to save the world finally. Wang Ji worshipped Zhu Danxi and became the founder of Xin’an medical school.

4) TCM Practitioners Lead Apprentices in Exercise

On April 16, 1956, the Ministry of Health issued the Instructions on Carrying out the Work of TCM Apprentices. Based on the actual situation, three forms of TCM apprentices were formed: 1) Individual apprentices. Similar to the traditional mode of guidance, master teaches by example. 2) Collective lead. Through the health offices or joint clinics established in various regions, the group is mainly led by renowned doctors, and other doctors cooperate according to their respective specialties. 3) Apprenticeship classes. Organized by government departments, it is divided into TCM apprentice class and apprentice training class. Apprenticeships typically last three to five years.

Apprenticeship education is divided into undergraduate and junior college.

5) The Academic Experience Inheritance of Old Chinese Medicine Experts in China

Under the leadership of the Ministry of Human Resources, the Ministry of Health and the State Administration of Traditional Chinese Medicine, we will select old traditional Chinese medicine experts with rich academic experience and technical expertise as mentors, and select excellent young and middle-aged business backbone as their academic successors, and hold a teacher meeting, and train them in the way of mentoring. The training time is 3 years.

6) TCM Clinical Outstanding Talents Training Program

In 2004, the State Administration of Traditional Chinese Medicine began to implement the “Training Program for Outstanding Clinical Talents of Traditional Chinese Medicine”. The program requires very high qualifications (chief physician). The term is 3 years.

7) TCM Medical Institutions Run Their Own Education by Teachers

Under the call of the State Administration of Traditional Chinese Medicine, provincial and municipal administrative bureaus or TCM departments carry out continuing education led by senior teachers. The teachers are mainly famous

doctors in the area and the hospital.

8) Integration of Teacher-student Education in Colleges and Universities of TCM

In 1999, the Ministry of Education and the State Administration of Traditional Chinese Medicine jointly issued the Opinions on Strengthening the Clinical Teaching of Higher TCM Education, which marked the formal start of the integration of teacher-student education in colleges and universities of TCM. Each relevant school has opened the teacher class, the seven-year traditional class, the modern apprenticeship class.

3. What to Teach

3.1. Contents of Traditional Mentorship Education

The learning content of traditional teacher education mainly consists of reciting the classic *Neijing*, the classic *Nanjing*, the *Classic of Shennong Materia Medica*, the *Treatise on Typhoid and Miscellany Diseases*, and memorizing the songs of Tang Tou, medicinal Fu, and meridian and collaterals. Each school also requires its students to master the “Sunflower Treasure Book” according to its own characteristics. In addition to the requirement to dabble in “miscellaneous”.

In the process of apprenticeship, the master not only teaches medical skills, but also attaches great importance to the teaching of medical ethics, traditional culture and relevant subject knowledge as well as the cultivation of quality skills. The Four Books and the Five Classics are also required courses for most apprentices.

The above content is often taught by the master alone. The apprentice gets along with the master day and night, and the medical ethics and comprehensive quality of the apprentice are often in the same line as the master.

3.2. Modern Mentoring Education Teaching Content

The main body of modern teacher education is the combination of college education and teacher education. Therefore, the training model is essentially a western medical education model. The initial theoretical learning often adopts the way of “TCM and Western medicine simultaneously”, including basic theory of TCM, TCM diagnosis and classical reading courses, as well as basic courses of Western medicine such as anatomy, physiology and pharmacology. Then I learned Chinese medicine, prescription, internal medicine, surgery, gynecology, pediatrics, acupuncture and massage and other subjects. Western medicine and surgery are also synchronized with it.

Although apprentices are taught by teachers when they enter the school, they have to learn basic courses of culture and specialized subjects, and they have to pass a unified examination to graduate. Therefore, apprentices spend most of their time in school. Only in their final year of practice can an apprentice serve alongside a master. However, because of the requirements of the talent training program, apprentices often have to rotate in and out of gynecology and children,

acupuncture and massage, and do not spend much time beside the master.

4. Teach Who

4.1. TCM Apprentice

Traditional mentorship education, because most of the “one to one” or “one to a number of people”, so the scale is small. Especially in the form of family inheritance, there are often family rules such as “pass on male, do not pass on female”, and competition consciousness constraints such as “peer is enemy”, which makes its scale very small. Its main objects are as follows:

1) Son

Doctors will treat their healing and saving skills as a kind of capital to make a living for the family or family, and only teach them to their descendants, or even “pass on the son but not the daughter”, because the daughter will marry and pass on the secret recipe to her family name, which will pose a threat to the survival and reproduction of the family years or years later. This is the main teaching object of “family inheritance”.

2) Enroll Only Those Who Are Outstanding

Xu Lingtai pointed out in the Theory of the Origin and Flow of Medicine that the criteria for selecting students are: “Those who are not intelligent and sensitive should not learn; Let no man learn unless he be learned; The person who is not false cannot learn also; Not read good memory of people cannot learn also; The disciple must have “extraordinary resources, general knowledge, and the ability to do common things, concentrate on them for several years, and learn from the teacher. Only in this way can he and the ancient sage also have a tacit understanding”. Many famous doctors, only one or two disciples, that is, is adhering to the “Suwen”, “spread not the person, overflowing Tianbao” the principle of choosing apprentices, putting quality before quantity.

3) Official Designation

Since the ruler needed more skilled doctors to serve him and his ministers, he would appoint some loyal people to learn from famous doctors. At this time, the master could only obey the will.

4.2. Modern TCM

The Law of the People’s Republic of China on Traditional Chinese Medicine, which came into effect on July 1, 2017, states: With the further development of new industrialization, It application, urbanization and agricultural modernization, accelerated aging of the population and vigorous development of the health service industry, the people’s demand for traditional Chinese medicine services is increasingly strong, there is an urgent need to inherit, develop and make good use of traditional Chinese medicine, and give full play to the role of traditional Chinese medicine in deepening the reform of the medical and health system for the benefit of human health. This makes the object of modern traditional Chinese medicine teachers obviously broad traditional Chinese medicine teachers,

in order to adapt to the broad masses of people's demand for traditional Chinese medicine. Modern teacher education, through the actions of the state, enables traditional Chinese medicine teacher education to run schools in a standardized, centralized and large-scale way, and has become the main body of modern traditional Chinese medicine education. Especially with the effective combination of colleges and universities, the scale has been far from the traditional teacher can reach.

1) Selection of Master

On May 1, 1999, the "Law of the People's Republic of China on Medical Practitioners" came into effect, standardizing the medical qualifications and behaviors, and clarifying the medical qualification certification methods for TCM teachers: "Those who have studied traditional medicine by way of training for three years or have specialized medical skills after years of practice, Professional organizations of traditional medicine or institutions of medical treatment, prevention or health care determined by the administrative department of health of the people's government at or above the county level may participate in the examination for the qualification of medical practitioners or assistant medical practitioners if they pass the examination and are recommended." The Interim Measures for the Registration and Assessment of Doctors' Qualifications for Those with Expertise in Traditional Chinese Medicine, which came into effect on December 20, 2017, stipulates that those who learn traditional Chinese medicine by way of teachers should meet the following requirements when applying for the doctor's qualification examination: After five years of continuous study of TCM with teachers, the diagnosis and treatment of certain diseases and syndromes has been qualified by the instructor's evaluation with unique methods, safe techniques and obvious curative effects. No more than four instructors should lead at any one time.

Under this rule, a master may teach no more than four apprentices at a time. These apprentices are often young people who are interested in Chinese medicine and have family roots but failed to enter Chinese medicine colleges and aspire to engage in the career of Chinese medicine.

2) Schod Selection

In 1999, the Ministry of Education and the State Administration of Traditional Chinese Medicine jointly issued the Opinions on Strengthening the Clinical Teaching of Higher Chinese Medicine Education, marking the formal start of the integration of mentoring education in higher Chinese medicine colleges. The relevant universities have set up postgraduate master classes and seven-year traditional classes. After a certain procedure, from the undergrads selected excellent students, from schools and clinical hospitals to select qualified tutors. Establish a mentoring relationship between students and mentors, and allow students to use weekends or abnormal class time to engage in TCM clinical learning with the mentors, assist the mentors in TCM dialectical observation, inquiry and treatment, and learn to copy prescriptions. Many colleges and universities have be-

gun to implement the modern apprenticeship system among undergraduates and junior college students, allowing students to visit teachers and learn TCM knowledge after local famous doctors. “Early following teachers” and “early clinical practice” have become the trend of modern TCM colleges to cultivate talents.

3) Unit Selection

Many TCM medical institutions, in order to carry forward and inherit the academic experience of their excellent old TCM practitioners, select young doctors who meet the selection conditions to learn from teachers, “learn from teachers” and “learn from teachers to understand the essence”. Some also send their young doctors to the local or national famous TCM practitioners to learn the art, and then return to the medical institution to serve, and further guide other doctors in the institution, forming a virtuous circle of “collective guidance, collective guidance”. In 2001, Guangdong Hospital of Traditional Chinese Medicine started to implement this model, which laid a good foundation for the development of the hospital and the inheritance of traditional Chinese medicine.

4) National Selection

The Law on Traditional Chinese Medicine clearly stipulates that for TCM theories, techniques and methods of important academic value, the competent departments of traditional Chinese medicine under the people’s governments at or above the provincial level shall organize the selection of TCM academic inheritance projects and inheritors within their respective administrative areas, and provide necessary conditions for the inheritance activities. Inheritors should carry out inheritance activities, cultivate successors, collect, sort out and properly preserve relevant academic materials. For representative items of intangible cultural heritage, inheritance activities shall be carried out in accordance with the relevant provisions of the Intangible Cultural Heritage Law of the People’s Republic of China. At present, there are two kinds of advanced inheritance implemented by the state:

a) The academic experience of traditional Chinese medicine experts across the country has been inherited. In 1990, under the leadership of the Ministry of Personnel, the Ministry of Health and the State Administration of Traditional Chinese Medicine, the Ministry selected senior TCM experts with rich academic experience and technical expertise as mentors, selected outstanding young and middle-aged backbone professionals as their academic successors, held a meeting of teacher workshops and trained them in the way of mentoring. There have been six batches since 1990. The requirements for the sixth batch of trainees in 2017 are: age 45 and below; I love my job and dedicate myself to my work. I am willing to inherit and study the academic experience of old Chinese medicine experts and have the courage to innovate. Engaged in traditional Chinese medicine, traditional Chinese medicine, integrated Chinese and Western medicine and ethnic medicine, employed as attending physician, pharmacist in charge and other intermediate titles for at least 2 years; Bachelor degree or above. Candidates with master’s and doctor’s degrees are preferred. A small number of young

and middle-aged professionals who have obtained college degrees and have been engaged in traditional Chinese medicine or ethnic medicine for more than 15 years can be selected as successors. Have been engaged in TCM clinical (practice) professional work for at least 8 years; Or Western medicine university graduates, engaged in medical professional working time of at least 8 years, including at least 4 years engaged in integrated Chinese and Western medicine or Chinese medicine work (on-the-job Western medicine off-job study of Chinese medicine or Chinese medicine clinical master's degree, the professional working years can be counted continuously); Basically in line with the major of the instructor; Do not hold the school level or above administrative position, good health, can ensure the completion of the work teaching plan and tasks; He has not been the successor of the first five batches of national succession work.

b) Successor of the TCM clinical Outstanding Talents Training program. In 2004, the State Administration of Traditional Chinese Medicine began to implement the "Training Program for Outstanding Clinical Talents of Traditional Chinese Medicine". Apprentices must have a bachelor's degree or above, have been engaged in clinical work for more than 15 years, be under the age of 50, and have the title of chief physician.

5. How to Teach

How to teach involves not only teaching methods, but also educational models. Teaching mode is to express the basic framework or procedure of teaching activities in a simplified form under the guidance of certain educational theories.

The theoretical basis of TCM teacher education model can be explained by constructivism theory and tacit knowledge theory. Constructivism emphasizes how to construct knowledge based on original beliefs, experiences and psychological structures (Zhang & Chen, 1996). Constructivism learning theory divides learning into "primary learning" and "advanced learning". In elementary learning, students need to know important concepts and facts and be able to reproduce them as they are on tests. Advanced learning requires students to grasp the complexity of concepts and be able to flexibly apply them to specific situations. The study of TCM knowledge is mainly advanced learning, which requires the application of knowledge on the basis of understanding, such as dealing with patients. Constructivism learning theory advocates the understanding and application of learned knowledge to solve problems in the real situation of mentorship.

Tacit knowledge theory divides knowledge into explicit knowledge and tacit knowledge, tacit knowledge is tacit knowledge. Tacit knowledge refers to the unspoken or unclear knowledge that cannot be systematically stated in the whole of human knowledge. Tacit knowledge is not impassable, but cannot be passed on to others by means of words and speech. It can be passed on to others by means of teachers and apprentices, which is the main theoretical basis of traditional Chinese medicine teachers (Yi, 2014).

In the traditional Chinese medicine teacher-educated education model, ap-

prentices learn from teachers. Students eat, live and study in the master's home, and become part of the master's family members. They often started with menial tasks, such as emptying the pitcher and washing the feet. After master approval can contact professional knowledge learning. Master's teaching often starts from the Four books and five classics, and then "Neijing", "Nanjing", "Shennong Bencao Classic", "Treatise on Febrile Diseases", "Tang Tou Song"..... When they were learning basic knowledge, They had attended clinics beside their master every day. Clinical practice and clinical theory should not be started after learning basic knowledge. Moreover, these knowledge contents, including ideological and moral education, are completed by the master alone.

Modern traditional Chinese medicine teacher education model, more emphasis on systemic. First learn the basic theory of traditional Chinese medicine, the history of traditional Chinese medicine, then the diagnosis of traditional Chinese medicine, and finally the internal and external departments of traditional Chinese medicine of women and children. While learning the knowledge of traditional Chinese medicine, Western medicine also follows the steps: from anatomy, physiology to pharmacology, diagnosis, and finally to clinical specialties. Teachers often teach a single subject, because there is specialization. The teachers are usually clinical experts who have made some achievements in their professional fields and are mainly responsible for the clinical teaching of the apprentices. In terms of teaching methods, modern teachers will use a variety of teaching modes, such as "guidance, acceptance", "self-study, tutoring", "exploration and discovery", "interest, cultivation", "demonstration and imitation", and adopt the forms of "micro-class", "MOOCs", "flipped classroom", combined with modern information means, to make learning interesting, easy to learn and easy to master.

6. Conclusion

Modern apprenticeship is being implemented in the field of vocational education. The Implementation Plan of National Vocational Education Reform issued in January 2019 pointed out that: to sum up the pilot experience of modern apprenticeship system and new apprenticeship system in enterprises, schools and enterprises should jointly study and formulate talent training plans, timely incorporate new technologies, new techniques and new norms into teaching standards and contents, and strengthen student practice and training. The essence of Chinese medicine is a skill. We cannot deny the achievements of Chinese traditional medicine teachers' exploration and practice on the road of modernization. We should not habitually think that Chinese traditional medicine teachers are good and the modernization education of Chinese medicine is useless. From the three aspects of what to teach, who to teach and how to teach, we can see that the modern mentoring mode has inherited the advantages of the tradition and abandoned the disadvantages of the tradition. We have reason to believe that with the further development of modern apprenticeship in TCM teaching, the

training of TCM talents in our country will become better and better.

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Conflicts of Interest

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

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