

Analysis of the Application Effect of the New Model for Graduate Education in Traditional Chinese Medicine (TCM) Basic Disciplines

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Abstract

Objective: To observe the application effect of the new model for graduate education in Traditional Chinese Medicine (TCM) basic disciplines. **Methods:** A total of 56 graduate students enrolled in the TCM basic disciplines at Guangxi University of Chinese Medicine, including the 2019 and 2020 cohorts, were selected as the research subjects. The teaching methods and evaluation criteria were reformed for the 2020 cohort (observation group), while the 2019 cohort was taught using the existing teaching model (control group). DREEM scale was used to diagnose the problems existing in the medical education environment, and the self-made simple teaching effect evaluation scale was used to investigate the satisfaction of students with the teaching effect and the help to themselves. **Results:** Compared with the control group, the students' perception of teachers, students' academic self-perception, students' perception of environment, students' social self-perception, and the total score of DREEM scale in the observation group increased significantly ($P < 0.05$). The teaching satisfaction and self-help satisfaction of the observation group were both 92.86%, which were significantly higher than those of the control group, and the differences were statistically significant ($P < 0.05$). **Conclusion:** The innovative model that combines innovation with inheritance in the education of graduate students in TCM basic disciplines can effectively improve the medical education environment and enhance the overall satisfaction of these students.

Keywords

Basic Disciplines of Traditional Chinese Medicine Major, Postgraduate Training Model, DREEM Scale, Satisfaction

1. Introduction

Since 1978, China has been enrolling graduate students in the Traditional Chinese Medicine (TCM) basic disciplines, and in 1979, the master's program was formally established. In 1997, the doctoral program in TCM basic disciplines was established. The graduate education in TCM basic disciplines has undergone 40 years of development, accumulating valuable experience in cultivating high-level TCM talents. It has played a significant role in promoting the inheritance and development of TCM and has become an important force in TCM's legacy and innovation (Yang & Li, 2021). In recent years, the scale of postgraduate education has been expanding, which is beneficial to the development of TCM discipline and the inheritance of TCM to a certain extent. However, the expansion of scale and the increase of quantity cannot be at the cost of the decline of quality. Therefore, the quality of postgraduate education and its influencing factors have also received increased attention (Zhang et al., 2020). Building on this foundation, this study conducted an investigation to explore a new model for graduate education in TCM basic disciplines. The model was applied in graduate education, and favorable results were obtained. The findings of this research are now presented as follows.

2. Subjects and Methods

2.1. Subjects

The research subjects for this study were 56 graduate students enrolled in the Traditional Chinese Medicine (TCM) basic disciplines at Guangxi University of Chinese Medicine, including the 2019 and 2020 cohorts. Among these students, there were 29 male and 27 female students, with an average age of (24.21 ± 1.56) years.

2.2. Research Methods

In 2020, the teaching methods and evaluation criteria of teaching reform content were conducted (the observation group, 28 students, including 15 boys and 13 girls). In 2019, the students were taught according to the traditional teaching model (the control group, 28 students, including 14 boys and 14 girls).

Observation group: a new model of postgraduate training combining inheritance and innovation. The main contents are as follows: 1) attaching importance to the construction of tutors: self-learning and teaching reflection are the first premise of teachers' teaching ability improvement. Building a sound management assessment system will provide an important guarantee for the improvement of teachers' teaching ability, and at the same time attaching importance to the construction of good teachers' ethics. Strengthen teachers' sense of professional identity and mission; 2) Inheriting Traditional Chinese Medicine Classics: Traditional Chinese Medicine classics embody boundless vitality, with a profound integration of natural and humanities sciences, forming the foundation of clinical thinking in TCM and establishing a comprehensive and effective system

of Traditional Chinese Medicine. Therefore, graduate students in TCM basic disciplines should actively seek the roots in TCM classics and strengthen their confidence in TCM. 3) **Emphasizing Tailored Teaching:** Different teaching methods and emphasis are applied to different educational subjects, and the same principle applies to the education of graduate students in TCM basic disciplines. Interest is the best teacher. Therefore, at the beginning of their enrollment, research interests of graduate students are investigated, and during the early stages of their studies, under the guidance of their supervisors, they efficiently engage in various activities, participate in multiple tasks, continuously study and practice, in order to discover and cultivate their own research interests. Additionally, the tolerance for mistakes is relatively high during the graduate stage, and early extensive practice and learning can help students identify their weaknesses and shortcomings, enabling them to leverage their strengths and address their weaknesses during their later studies and development. 4) **Strengthening the Development and Application of Online Courses:** Utilizing the advantages of the Internet, graduate students are freed from the constraints of time and location in their studies. This increases the efficiency of their learning, expands the scope of their learning, and fosters innovative thinking and capabilities. Post-lecture online tutoring and Q&A sessions are provided to enhance the quality and efficiency of communication between students and instructors.

The control group was taught according to the traditional teaching mode.

2.3. Indicators of Observation

DREEM Scale: Based on the students' comprehensive feeling of the medical education environment, the problems in the medical education environment were diagnosed from five aspects: students' perception of learning, students' perception of teachers, students' academic self-perception, students' perception of the environment, and students' social self-perception. All items were expressed as 0 - 4 points from never agree to strongly agree. Out of 200 points. According to the total score of the scale, the educational environment was divided into four grades: serious educational environment problems (0 - 50 points), many educational environment problems (51 - 100 points), good educational environment (101 - 150 points), and particularly good educational environment (151 - 200 points).

The self-designed simple teaching effect assessment scale has been used in our school for many years. It is used to investigate the students' satisfaction with the teaching effect and the help to themselves. It is divided into very satisfied (≥ 90 points), satisfied (76 - 90 points), general (60 - 75 points) and not satisfied (< 60 points).

2.4. Statistical Methods

Epidata3.1 was used for data input, collation and output, and spss21.0 was used for data analysis; A statistical difference of 0.05 was considered.

3. Results

3.1. DREEM Scale Analysis

Compared with the control group, the students' perception of teachers, students' academic self-perception, students' perception of environment, students' social self-perception, and the total score of DREEM scale in the observation group increased significantly ($P < 0.05$). The results are shown in **Table 1**.

3.2. Comparison of Teaching Effect Related Indicators

The teaching satisfaction and self-help satisfaction of the observation group were both 92.86%, which were significantly higher than those of the control group, and the difference was statistically significant ($P < 0.05$). The results are shown in **Table 2**.

4. Discussion

Postgraduate education is the highest level of TCM education, and the core problem of TCM postgraduate education is how to improve the quality of training. As the cornerstone of Traditional Chinese Medicine (TCM) and a key discipline in traditional TCM education, the quality of graduate education in TCM basic disciplines not only affects the individual prospects of graduate students but also directly impacts the development prospects of TCM in our country.

In terms of the influencing factors of postgraduate training quality under the situation of enrollment expansion (Li et al., 2021; Yang, 2021), there are mainly many aspects such as postgraduate students themselves, postgraduate tutors, schools, and society. Among them, the latter three factors are objective conditions, and the graduate students themselves are subjective conditions. Compared

Table 1. Analysis of DREEM scales in the two groups (n = 28).

Group	n	Students' perception of learning	Students' perception of teachers	Students' academic self-perception	Students' perception of the environment	Students' social self-perception	Total score of DREEM scale
Observation group	28	32.7 ± 2.8	31.3 ± 2.4	20.8 ± 1.6	33.3 ± 3.6	17.6 ± 1.7	135.6 ± 12.1
Control group	28	31.8 ± 2.5	23.2 ± 2.0 [▲]	16.3 ± 1.3 [▲]	29.2 ± 3.0 [▲]	15.4 ± 1.5 [▲]	115.9 ± 10.3 [▲]

Note: Compared with the control group, [▲] $P < 0.05$.

Table 2. Comparison of related indicators of teaching effect between the two groups (n = 28).

Group	n	Satisfaction with the teaching effect					Satisfaction with their own help				
		Very satisfied	Satisfied	general	Not satisfied with	Satisfaction (%)	Very satisfied	Satisfied	general	Not satisfied with	Satisfaction (%)
Observation group	28	9	12	5	2	92.86	9	11	6	2	92.86
Control group	28	8	4	5	11	60.71 [▲]	7	3	6	12	57.14 [▲]

Note: Compared with the control group, [▲] $P < 0.05$.

with objective conditions, the influence of graduate students on the quality of training is undoubtedly the most fundamental and crucial. For TCM basic disciplines, it is worth our in-depth consideration on how to better improve the quality of graduate education by balancing “inheritance” and “innovation.”

Some scholars have pointed out that in recent years, the proportion of classical courses in traditional Chinese medicine education is too small, and the teaching staff is insufficient, which leads to the lack of sufficient attention to classics and the decline of students' enthusiasm for learning classics. This phenomenon is more prominent in the graduate group of traditional Chinese medicine (Wang et al., 2018). The reason is that with the development and progress of science and technology, the learning direction and scientific research tasks of graduate students of traditional Chinese medicine gradually tend to micro research. Indeed, in the process of conducting TCM research activities, the application of modern science and technology has refined the traditional concept of TCM and interpreted the connotation of TCM from a new perspective. Under the background of globalization, this has promoted the acceptance of TCM in the international community, but we cannot ignore the traditional nature of TCM. The reliable curative effect under the guidance of traditional Chinese medicine classics has been verified for a long time. Showing the unique charm of traditional Chinese medicine classics to graduate students is the basis for establishing their interest in learning, and it is also a breakthrough to establish their self-confidence in traditional Chinese medicine culture.

Innovation is the soul of a nation's progress and the inexhaustible driving force for a country's sustainable development. Improving independent innovation ability and building an innovative country are the core of our country's development strategy. The key to building an innovative country lies in talents, especially innovative scientific and technological talents. Graduate students are the most active new force in colleges and universities, and an important force in building an innovative country in the future. Their innovation ability directly affects the country's overall independent innovation ability. Innovative thinking and innovative ability are important components of the comprehensive quality of graduate students, important indicators to measure the quality of graduate education, and key factors to cultivate high-level innovative talents. The ability of innovative thinking requires the comprehensive application of various thinking modes, of which innovative thinking is the most important form (Lin, 2021). Divergent thinking is a more advanced and complex psychological phenomenon that involves exploring different answers to a problem from various directions, even opposing ones. A significant feature of divergent thinking is challenging commonly accepted conclusions that are perceived as flawless.

5. Conclusion

In light of this, this study proposed an innovative model that combines innovation with inheritance in the education of graduate students in TCM basic discip-

lines and applied it in practice. The results revealed that compared to the control group, the observation group showed significant increases in perceptions of teachers, academic self-perceptions, environmental perceptions, social self-perceptions, and the total score on the DREEM scale (all with $P < 0.05$). The observation group also demonstrated higher levels of satisfaction with the teaching and self-perceived benefits (92.86%) compared to the control group, with statistically significant differences ($P < 0.05$). These findings indicate that the innovative model, combining innovation and inheritance, effectively improves the medical education environment and enhances the satisfaction of graduate students in TCM basic disciplines.

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Conflicts of Interest

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

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