

Exploration and Application of Role Exchange between Teachers and Students in Pharmaceutical Experimental Teaching in "Internet +" Age

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Abstract: Pharmaceutical experiments are an important part of pharmacopathology, and play an important role in the study of subsequent courses such as drug synthesis, drug analysis, pharmacology and pathology. The "Internet +" age enables students to learn to study independently and stimulate their interest. In this paper, the fundamental change of the teaching concept from the traditional "perfusion" teaching mode -- teacher-centered "to" autonomy-centered "teaching mode -- student autonomy-centered" strengthens students' initiative in learning, and this role exchange plays a very important role in quickly adapting to the position after graduation.

1. Introduction

With the development of medical science and technology in "Internet+" age, high-quality compound and practical talents are more and more welcomed by the society. Some enterprises and institutions always hope to recruit students into the unit can quickly adapt to the post, take charge of their own. Therefore, the students cultivated by the school should not be limited to the theoretical knowledge in written form, but should strengthen the cultivation of students' practical ability, active learning ability and innovative ability. In this respect, experimental teaching bears a heavy burden. In order to overcome the drawbacks of the traditional "perfusion type" teaching method exists, from "teachers' teaching as the center" to "the students' independent learning as the center" the teaching idea, fundamental transformation, stimulate interest, enhance the learning initiative, make students learn to autonomous learning, to achieve the purpose of improving teaching quality, pharmaceutical experiment teaching mode and methods of innovation is imperative. Cultivate students' ability to find, analyze and solve problems, and create opportunities for students to practice. This is also the important content of the reform of pharmacy experiment teaching system.

2. Current Mode of Pharmaceutical Experiment.

As an important part of the whole pharmacy teaching, the teaching quality of the experimental teaching has a direct impact on the cultivation goal of the students of pharmacy major and the realization of the course goal. Pharmacy is a highly applicable major. From the first semester of enrollment to graduation, the experimental course runs through it. At present, there are many problems in pharmaceutical experiments:

(1) According to the unified experimental teaching materials and experimental handouts with a history of more than 10 years, teachers give lectures. The teaching mode of "teacher indoctrination - student acceptance" is relatively single, with outdated content and rigid process. The purpose of experimental teaching is only to verify students' understanding of classroom theoretical knowledge, but neglect the cultivation of students' comprehensive ability.

(2) Students are not able to design experiments by themselves, and rarely put forward their own opinions and ideas in experiments. Students still follow the experimental purpose, principle, process, matters needing attention and discussion format, and stay on the basis of confirmatory experiments. Students are not enthusiastic and active enough in experiments, and it is difficult to improve their interest.

(3) Due to the invariable experimental equipment, methods and steps for many years, the teachers were able to respond to the questions raised by students with ease, and developed the

inertia of teachers' experimental teaching, weak innovation consciousness and slow knowledge updating.

(4) Very few students carefully preview the experiment before the experiment class, students' inertia is very strong, and some students often cut class, copy the experiment report of the students in the same group. In the writing of experimental reports, students lack innovative analysis, and are only simple descriptions of experimental phenomena. They are not good at summarizing experience and lessons.

In view of this situation, if the previous teaching content and teaching methods applicable to undergraduates are still used, the students trained lack enthusiasm, initiative and practical ability of experimental learning, and cannot meet the requirements of modern society on operational skills and practical innovation ability of talents. Therefore, it is imperative to reform and innovate experimental teaching methods.

3. Establish the Advantages of Role Reversal Pharmaceutical Experiment Reform

3.1. The Importance of Content Design of Pharmaceutical Experiment Teaching.

Students write experiment reports carefully. The hierarchical experimental teaching mode is introduced in the whole experimental teaching process of pharmaceutical specialty, the original experimental content is retained, and the report of teaching design should be designed from the main aspects of experimental purpose and task, principle and mechanism, reagent and device diagram, steps, phenomena and data records, matters needing attention and questions for thinking. By elaborately designing the teaching content, the experimental teaching content system that conforms to the understanding law and teaching law is formed from the simple to the difficult, from the easy to the complex, from the simple to the comprehensive, and highlights the characteristics of pharmacy specialty.

3.2. Introducing New Methods and Means of Pharmaceutical Experiment Teaching

Promote the reform and innovation of pharmacy experiment teaching method. Improve students' professional interest and comprehensive ability to apply knowledge. Train students' practical operation ability, analysis and problem solving ability, and cultivate divergent and innovative thinking. The experiment operation is carried out by combining multimedia computer simulation technology with real experiment teaching method. In addition, we should pay attention to the expansion of pharmaceutical experimental class, and carry out pharmaceutical experimental teaching reform by cooperating with enterprises and scientific research projects and participating in experimental competitions. Make full use of foreign educational resources, learn from advanced experimental teaching ideas, teaching methods, teaching means, in order to establish a pharmacy characteristic experimental teaching reform road service.

3.3. The Basic Structure of the Role Reversal Experimental Teaching Model

The figure 1 below is the basic framework of the teacher-student role exchange teaching model.

This design can make the teacher first ahead of elaborate design and experiment of learning information, formulate the teaching goal task, build, PPT, video, audio network links and text study documents, second can mobilize students make full use of Internet resources such as reading, query, guide students to autonomous learning and preparation before class. In this way, the fundamental transformation of the traditional "perfusion" teaching mode -- teacher-centered "to" autonomous-centered "teaching mode -- student-centered" is changed, and the initiative of students in learning is enhanced.

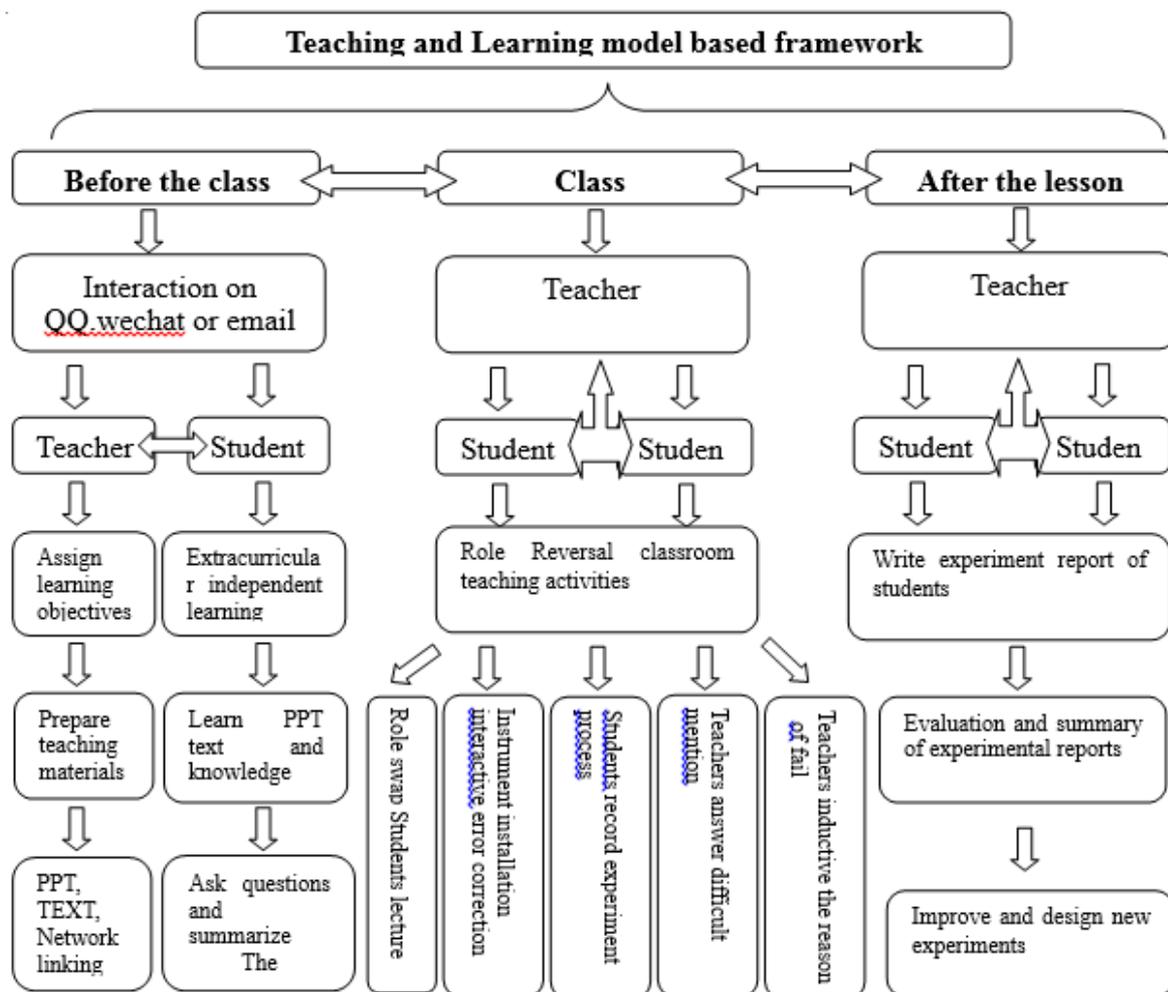


Figure 1 Basic Framework of the Teacher-Student Role Exchange Teaching Model.

3.4. Feedback and Evaluation is a Challenge of Role-Exchange Teaching Model and Method

Through feedback and evaluation, teachers can master whether students can adapt to this teaching mode, find problems and constantly adjust and modify teaching strategies. The reform practice of RRFC teaching mode adopts the following ways for feedback and evaluation. Although the advantages are obvious and there are many successful cases, how to overcome the problems in the implementation process still needs to be summarized and explored in practice.

4. Conclusion

Although there are difficulties in the teaching method of role reversal, its advantages are obvious to all. It can deepen students' awareness and memory, so that students can really prepare and learn carefully, and avoid mere preparation and copying of experimental reports. Role exchange mode can give students the opportunity to fully express their own opinions, exercise students' speech eloquence and courage, stimulate students' desire for success, directly stimulate their interest in learning, and truly realize the "student-centered" teaching concept change. We will continue to consolidate the practical results already achieved, draw reasonable Suggestions from students and peers, and continue to improve according to the feedback of practice, to form a more reliable and effective model, promote the deepening of experimental teaching reform, and achieve better reform results.

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