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The practical strategy of micro-course combined with traditional teaching in the teaching of internal science theory

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ABSTRACT. Objective: *In order to effectively improve the self-learning ability of medical students, this study explores the application of micro-courses combined with traditional teaching to the teaching of internal science theory, combined with the characteristics of traditional teaching and micro-teaching, and the development of internal science theory teaching. Practical research, summarizing the teaching effect of micro-course combined with traditional teaching, confirming that micro-course combined with traditional teaching applied to internal medicine theory teaching can effectively improve the overall quality of internal medicine teaching, and is superior to traditional teaching results can be promoted and applied in practice.*

Keywords: *micro-course; traditional teaching; internal science theory*

1. Introduction

Under the wave of higher medical education reform, the teacher-led, student-centered education concept and the innovation of the diversified teaching model have become the hotspots of medical education reform. Internal medicine as a specialist in clinical medicine is almost all other clinical medicines. The foundation, which has always played an important role in cultivating high-quality medical professionals, it is highly theoretical, practical and applicable, including the etiology, epidemiology, pathogenesis, clinical manifestations, diagnosis, Treatment and prognosis, etc. Because internal medicine covers all systems of the human body, the content is numerous, the mechanism is ABSTRACT, and the class is long. The traditional teaching mode is relatively mechanical, the innovation is slightly insufficient, the students' interest in learning is generally low, and the learning effect

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is not ideal. One of the main problems facing current internal science teaching is how to stimulate students' interest in learning and improve their self-learning ability. Micro-course is an educational method based on electronic informationization, and also an important breakthrough point in medical teaching reform. Model diversity reform plays an important role.

2. Characteristics of micro-course and traditional internal medicine theory teaching mode

2.1 Characteristics of traditional internal medicine theory teaching

At present, the traditional internal science theory teaching is mainly a classroom teaching mode, and its characteristics are as follows[1]: (1) a wide range of points: because internal medicine introduces its etiology, epidemiology, pathogenesis, clinical manifestations, and various clinical diseases. Diagnosis, treatment and prognosis. There are many knowledge points, wide-ranging and theoretical, and students are not easy to understand. (2) Single teaching mode: The whole course is basically taught by the teachers on the podium. The students passively accept and appear under the podium. The phenomenon of “cramming” is less, the classroom teaching interaction is less, the students have a single way to acquire knowledge, and the effect is not Ideal. (3) Long teaching time: The internal medicine theory class is generally 2 hours, 90 minutes, and the class time is long. The students' attention is not easy to concentrate. (4) Timeliness is poor: the teaching material is the most common and most used in theoretical teaching. Teaching materials, although it follows the syllabus, is conducive to the standardization of teaching, but the content of the textbook has a lag with respect to medical development, can not keep up with the frontier of medicine, and some of the knowledge is aging and timeliness is poor.

2.2 Micro-class internal medicine theory teaching characteristics

Micro-course is a new type of online learning mode. Different from traditional teaching, teaching video is the main carrier. It has the following characteristics: (1) Short time: the length of micro-course is generally 5~8 minutes, and the longest is

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no more than 10 Minutes, because the video is short and the content is small, it is convenient for students to use fragmented time for fragmented learning and improve learning efficiency. Therefore, the key points, difficulties, and doubts of each disease in the internal medicine can be made into micro-courses, so that students can choose to study independently. (2) Good timeliness: As a flexible teaching content carrier, micro-course can carry the latest clinical frontier progress and can make up for the shortcoming of traditional teaching content. (3) Efficient: Micro-courses can carry rich teaching content in a short period of time, form a strong information impact on learners from the visual and auditory, and create a good teaching atmosphere. However, since the content of the micro-course is only fragmented for a certain knowledge point, the overall grasp of the whole chapter content is not good, and this deficiency can be well compensated by classroom teaching.

3. Micro-course combined with traditional teaching mode to apply internal medicine theory teaching

3.1 Research objects

96 students from the clinical five-year undergraduate level of our school were used as the control group, and 96 students from the 2018 level were used as the education reform group. The two groups of students were admitted according to the second batch of admission scores of the national colleges and universities. The age, sex and enrollment of the two groups of students There was no significant difference in scores ($P>0.05$), and the curriculum, teachers and textbooks were identical. The course is set to the full content of internal medicine.

3.2 Research methods

3.2.1 Teaching methods

The teaching reform group adopts the teaching method of micro-course combined with traditional teaching, and the control group adopts the traditional teaching method with the teacher's regular teaching as the main body.

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3.2.2 Micro-course combined with traditional teaching joint mode

The micro-course is a contextualized online course developed for a knowledge point or a teaching activity by using a micro-teaching video as a carrier. Through the “micro-course” form to maximize the student's autonomy, to achieve the “flip” of the classroom. The specific implementation process is divided into three stages. The first stage focuses on the selection of the research objects of teachers and students. In the second stage, the students in the teaching reform group use the self-study teachers to prepare the micro-courses in advance, and they think about the teachers in the micro-class and the MO-class. The questions raised, in the classroom, the students of the teaching reform group were randomly divided into 8 discussion groups, each group of 12 people, the students recommended each other, selected a moderator, a recorder, the students discussed with each other, each has seen To explain their understanding and doubts about the micro-classes of self-study before class. After the group discussion, the representatives of the groups recommended to speak and summarize. During the discussion, the teacher guides the students to discuss the direction when necessary and evaluates the class performance of the students. After the discussion, the teacher made a summary answer to the questions in the discussion. Systematic answers to questions that are controversial and problems in the discussion, and points out the strengths and weaknesses of each group of students. The third phase focuses on teaching feedback so that teaching methods can be further improved in the future.

3.2.3 Evaluation method

The final exam scores of the students in the teaching reform group and the control group were compared, and the teaching results were evaluated effectively through questionnaires. In order to ensure the fairness of the results, the teaching hours and teaching conditions of the two groups are exactly the same. The same teachers implement the teaching, adopt the unified test questions, and uniformly read the papers.

4. Results

Student's theoretical test scores Compared with the theoretical test scores of the

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students in the education reform group and the control group, the test scores of the students in the education reform group were significantly better than those in the control group, and the difference was statistically significant (P<0.05).

Table 1 Student's theoretical test scores compared

project	Teaching reform	Control group	P value
Basic concept theory	35.24±10.55	39.41±9.85	P<0.05
Pathological analysis	35.27±8.79	41.59±8.31	P<0.05
Total score	70.51	80.96	P<0.05

Student Survey Teaching Compared with the survey results, compared with the students in the control group, the students' self-learning ability, learning interest, expression ability, teamwork ability, ability to use knowledge to solve problems, and knowledge expansion are all compared with the students in the control group. Significantly improved (P < 0.05), see Table 2.

Table 2 Comparison of student survey teaching

project	Teaching reform	Control group	P value
Autonomous learning ability	9.71±0.36	6.81±0.25	P<0.05
Flexible use of knowledge	9.66±0.55	7.09±0.41	P<0.05
Learning interest	9.82±0.25	7.84±0.26	P<0.05
team work	9.34±0.26	6.75±0.56	P<0.05
expression ability	9.12±0.31	7.05±0.45	P<0.05
Knowledge extension	9.55±0.27	8.22±0.34	P<0.05

5. Discussion

Internal medicine is the basic discipline of clinical medicine and an important foundation for learning and mastering other clinical disciplines. The micro-course is

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a teacher-based teaching mode. Before the class, the students learn the pre-recorded micro-courses, and self-learning the difficult points of the teaching through the micro-courses[2]. Then, in the classroom, they learn and understand the teaching through the guidance of the teachers and the discussion among the students. Content, thus achieving the purpose of class reversal. Micro-course online video learning provides students with flexible and independent online learning opportunities[3]. In the classroom, because of the students' early learning and the communication between the students and the teachers and students, the students in the class will be more active and enthusiastic, and they can also promote the enthusiasm of the students with less enthusiasm.

After this research, it is also found that the application of micro-courses combined with the traditional teaching mode in the teaching of internal science theory, (1) teachers: First, the role played by teachers has changed, from lecturers to inspirations, not too much to participate in students. The discussion between them avoids affecting students' enthusiasm. Secondly, teachers should inspire students to return to the theme when students deviate from the theme. Teachers should point out the mistakes and deficiencies in the discussion and accumulate experience for the future micro-courses combined with traditional teaching modes[4]. (2) Students: There are differences between students. Some students are not willing to speak in the classroom. During the discussion, teachers should give special guidance to make them active. But at the same time, we also recognize the inadequacies of the teaching methods of micro-courses and traditional classrooms applied in internal science teaching. First of all, due to the particularity of students in medical colleges, students have to arrange time for internships in addition to theoretical studies, and their spare time is limited. This requires teachers to be as short and exquisite as possible in the production of micro-classes, easy to understand, do not take up too much time for students. Secondly, each student's individual status is different, and there is a big difference between each subject. Therefore, when adopting the above-mentioned joint teaching method, it should be treated differently according to the characteristics of different subjects and different students, and it is impossible to make a monotonous situation. Finally, the teaching method has higher requirements for the quality of teachers, including micro-courses. Therefore, we must pay attention to the cultivation of teachers. At the same time of adopting the above-mentioned teaching methods, we must also combine and complement the

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traditional teaching methods.

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