

Research on the Application of Micro-course Combined with Flipped Classroom in Pathophysiology Teaching from the Perspective of Educational Ecology

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Abstract: In the traditional physiology and pathology teaching, it focuses on the teaching mode based on the subject system, but because of different viewpoints, it will affect the students' thinking logic. Therefore, this paper studies the application of micro-course combined with flipped classroom in pathophysiology teaching from the perspective of educational ecology. From the perspective of educational ecology, the combination of micro-courses and flipped classrooms in pathophysiology teaching can achieve the goal of enhancing students' autonomy and enthusiasm, and effectively promote the development of learning activities by transforming teaching concepts, improving teaching quality, and expanding teaching equipment.

Keywords: Pathophysiology; Knowledge system; Theoretical basis; Mode of thinking

1. Introduction

A branch of pedagogy is education ecology. Education ecology is a science that mainly based on the ecology and the surrounding ecological environment. The education ecology mainly includes two aspects, namely micro-ecology and macro-ecology. Macro-ecology is centered on education, and has an impact on micro-educational ecology by analyzing the relationship between humans and education in the environmental system or the living space of students. From the micro-ecological point of view, pathophysiology is a micro-course combined with flipped classroom that combines teachers, students and classroom environment. Micro-course combined with flipped classroom focus on theoretical research. Pathophysiology as an example, using educational ecology related theories to study the application of micro-course combined with flipped classroom in pathophysiology teaching from the perspective of educational ecology[1].

2. Micro-course Combined with Flipped Classroom to Transform Pathophysiology Teaching Concept

The traditional teaching method will make students feel passive, and the indoctrinated teaching mode can no longer meet the needs of the times. With the development of information technology, the micro-course flipped classroom has been applied to various teaching fields. From the perspective of educational ecology, the combination of micro-course and flipped classroom is a basic theoretical course in pathophysiology teaching. The content of the class has abstract and logical characteristics, which is closely related to other basic subjects and clinical subjects, and also it is the most difficult subject to study. In the traditional physiology and pathology teaching, it focuses on the teaching mode based on the subject system. Although the body structure is revealed in the process of teaching, because of different viewpoints, it will affect the students' logical thinking to master knowledge[2]. The teaching mode of micro-course combined with flipped classroom in the pathophysiology is as follows:

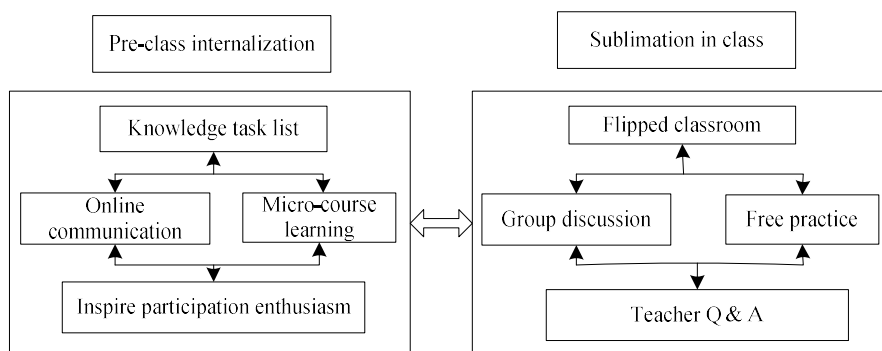


Figure 1. Teaching mode of micro-course combined with flipped classroom in pathophysiology

Figure 1 is the teaching mode of micro-course combined with flipped classroom in pathophysiology, in which it focused on the teachers' imparting knowledge, and emphasized the students' autonomy and the enthusiasm of accepting knowledge. In the micro-course flipped classroom, more attention is paid to cultivating students' interest in learning. So in the classroom, it is necessary to meet the students' interest in learning and attract students' attention. The content of the textbooks in pathophysiology should be combined with real life. Through meticulous design, students are put into learning, which has a certain impetus to promote the sustainable development of medical education. Abandoning the traditional teaching model can cultivate more creative medical talents. In the study of pathophysiology teaching, it is necessary to use the teaching effect, students' ability, learning attitude and learning method as the indicators of combination of micro-course with flipped classroom. In the combination of micro-course and flipped classroom, the individual ability of students will directly affect the teaching quality. In the teaching, students and teachers need to change roles, and change their teaching concepts to provide practical experience for teaching. In pathophysiology teaching, the class period is changed, so that students can define the concept of theoretical knowledge in the process of learning[3]. In pathophysiology, there is a lot of theoretical knowledge, students often only understand what they have learned, but they cannot digest and absorb. In order to reduce the burden of students' learning, the micro-course combined with flipped classroom provides students with a lot of time, so that students can acquire more knowledge and improve their learning efficiency. At present, in the teaching of pathophysiology, improving students' learning efficiency is an urgent problem to be solved[4].

3. Micro-course Combined with Flipped Classroom to Improve the Quality of Pathophysiology Teaching

In the micro-course combined with flipped classroom, the pathophysiology is based on the basic courses of medical colleges. It provides some opinions by changing the teaching methods to meet the needs of the social era, and creates a good learning atmosphere for students according to the characteristics of pathophysiology. In the micro-course combined with flipped classroom, students will have more learning opportunities and learning rights. In teaching, teachers should shape the initiative and enthusiasm of learners and develop their lifelong learning skills. Learners must be responsible for themselves, exploring problems and solving problems. In teaching, learners should weaken the dependence of teachers. Teachers are the designers of the curriculum, supporters of learning activities. In the teaching, learners and designers need to clarify their responsibilities. Teachers

should create a good learning environment for students, provide corresponding resources, guidance and help, but students need to be responsible for their learning. In the micro-course combined with flipped classroom, teachers can form a group that runs through the pathophysiology teaching [5]. The group learning model is as follows:

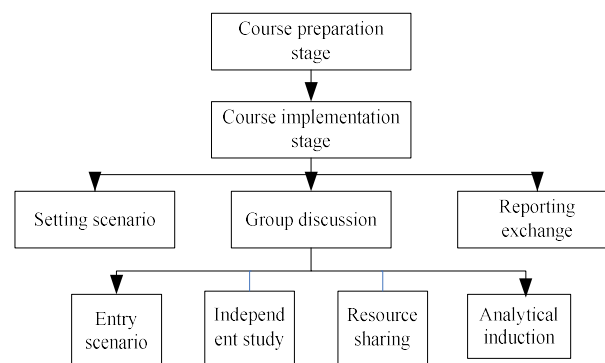


Figure 2. Group learning model of pathophysiology in the micro-course combined with flipped classroom

Figure 2 is a group learning model of pathophysiology in the micro-course combined with flipped classroom. In the teaching, the communication between learners is very important. The skills and attitudes of peer cooperation are very important to promote the critical thinking of learners. In the micro-course combined with flipped classroom, there is some complex knowledge that needs to apply multi-disciplinary knowledge. Therefore, in the learning, the problems need to be solved in groups together, who need to cooperate in groups to realize the complementary advantages between learners and peers, and promote the development of learning activities[6].

From the perspective of educational ecology, the micro-course combined with flipped classroom focuses on the problem and carries out activities around the pathophysiology. Theoretical knowledge is an indispensable part of pathophysiology. The frequency of innovation in knowledge and technology is accelerating, and teachers need to cultivate talents with innovative thinking and practical ability. High-quality teachers are not only experts in a certain discipline and a certain field, but also need to have a solid medical foundation and theoretical basis of pathophysiology. From the perspective of educational ecology, teachers need to have the spirit of lifelong learning, constantly update medical ideas and medical concepts, master new knowledge and educational technology to change their knowledge structure. The educational philosophy of learners and designers needs to meet the needs of the society and times. In addition, the micro-course combined with flipped classroom of the pathophysiology teaching will regularly invite medical experts to help students establish a sound knowledge system. The teaching should not be limited to their own subjects, but

should broaden their thinking and vision to improve teaching efficiency. Teachers need to master the teaching rules, understand the teaching psychology of learners, and master new teaching methods and teaching skills to improve students' learning requirements. The new teaching methods and teaching skills have higher requirements for teachers, which require teachers to accumulate various aspects of knowledge theory in teaching to improve their overall quality[7].

4. Micro-course Combined with Flipped Classroom to Expand Pathophysiology Teaching Equipment

In traditional teaching, teachers are the main body of the classroom, teachers are the transmitters and owners of knowledge, and students are the recipients of knowledge. Under the supervision of teachers, students need to clarify the goals and content of teaching, and improve the quality of teaching to allow students to take exams and evaluations. In the teaching of pathophysiology, the knowledge theory of teachers' reserves will affect the class efficiency and the class quality. The teaching of pathophysiology of micro-course combined with flipped classroom can improve the teaching quality. In this teaching revolution, teachers are the source of knowledge, and students are the recipients of knowledge. From the perspective of educational ecology, the application of micro-course combined with flipped classroom in pathophysiology expands the ways that students acquire knowledge. Under the new teaching mode, perfect teaching knowledge structure and strong logical thinking are effective ways to improve students' learning efficiency. There are many knowledge theories of pathophysiology, requiring students to have strong observation and rigorous logical thinking, to discuss the questions raised by teachers, and to provide favorable information for students' exploration activities. Provide advanced technical equipment in the information and tools of the exploration activities to help students establish a sound knowledge system in the process of cooperation. The teaching system is as follows:

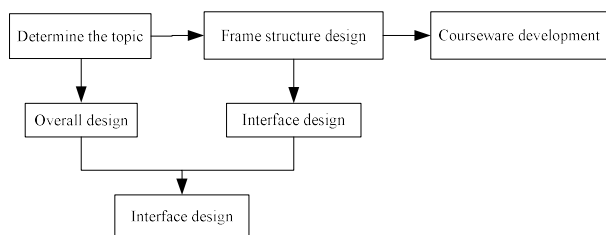


Figure 3. Teaching system

Figure 3 is the teaching system. The application of micro-course combined with flipped classroom has increased the software interaction function in the pathophysiology teaching. The student-centered teaching method

emphasizes the students' subjective initiative and enthusiasm, but it does not mean neglecting the status of teachers and the positive role of teaching. The teaching quality of micro-course combined with flipped classroom in pathophysiology is a measure of the success of teaching reform. Teachers are the coordinators of teaching activities, and classroom activities planned by teachers are conducive to the development of students' cognitive processes. The combination of micro-courses and flipped classes requires teachers to determine the learning direction in the learning environment and guide students to establish correct knowledge system and cognitive objects. The teaching of pathophysiology often makes students feel boring, teachers need to mobilize the enthusiasm of students and stimulate students' potential[8].

The teacher's knowledge system can stimulate students' potential. In the concept of teaching objectives, students should be the mainstay, and the traditional teaching viewpoint should be re-examined. In pathophysiology, students need to constantly fill in medical knowledge and pay attention to students' learning ability and inquiry spirit. The micro-course combined with the flipped classroom focuses on stimulating the potential of students and the views and opinions of each person on learning. The communication between teachers and students can change the traditional teaching mode. The micro-course combined with flipped classroom adds software interaction function, and the teacher can interact with the students to understand the students' ideas, which is impossible to achieve in the teaching process.

5. Conclusion

From the perspective of educational ecology, the application of micro-course combined with flipped classroom in pathophysiology teaching can adjust students' learning attitude and learning quality. In order to improve the enthusiasm and learning effect of the learners, teachers need to improve their overall quality, respect the reasoning results of the students in the teaching and adopt a rigorous logical attitude to evaluate the students' learning results.

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