

Application of Pbl Teaching Mode in Anatomy Teaching Based on Network Platform

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ABSTRACT. PBL(problem-based learning) teaching method is a problem-based and student-centered teaching method, which aims at cultivating students' autonomous learning ability, developing students' comprehensive thinking ability and solving practical problems. It is one of the main teaching modes in the west. PBL teaching method has the advantages of stimulating students' interest in learning, enhancing their ability to learn and solve practical problems, promoting quality education in an all-round way, and improving students' academic performance. Human anatomy is a science to study the normal human morphology and structure, and is a basic course to study physiology, pathology and various clinical disciplines. In PBL teaching practice, anatomy is integrated into several sections. Compared with the traditional teaching mode, when students study each section with PBL method, they will be involved in histology, physiology, pathology and pharmacology, etc. The time span is longer, and the knowledge that students are exposed to is greatly increased.

KEYWORDS: Pbl teaching method, Anatomy, Teaching mode

1. Introduction

For a long time, anatomy teaching workers have been continuously exploring effective teaching methods of systematic anatomy to improve teaching quality, so as to enable medical students to learn systematic anatomy better and more solidly and lay a good foundation for learning other basic medical courses and clinical courses [1]. PBL teaching method is a problem-based and student-centered teaching method aimed at cultivating students' autonomous learning ability, developing students' comprehensive thinking ability and solving practical problems. It is one of the main teaching modes in the West. Human anatomy is a science to study the normal human morphology and structure, and is a basic course to study physiology, pathology and various clinical disciplines [2]. Human anatomy is a subject that studies normal human body morphology and structure, and is a very important morphology subject in medical colleges. It is also the first practical and basic medical course for eight-year students to enter medical schools. Anatomy has many noun terms, complicated contents, less logical reasoning, and mostly descriptive language [3]. Under the traditional teaching methods, how to enliven the classroom atmosphere, mobilize and stimulate students' interest in learning has always been a difficult problem for teachers [4]. The PBL teaching method has the advantages of stimulating students' learning interest, enhancing the ability to learn and solve practical problems, comprehensively promoting quality education, and improving students' academic performance.

Anatomy is an important basic medical course, and its content has been widely used in clinical medicine. However, this course has many noun concepts, and complicated and cumbersome content, which is difficult to understand and remember. Students are often trapped in textbooks and difficult to do the practice. [5]. Cultivating more innovative talents is the requirement of social development for school education, and it is also the most fundamental task of school education. For a long time, the question of how to cultivate students' innovative ability in school education has been one of the important topics for educators to think and research. The PBL teaching method is one of the teaching methods that has emerged in the new situation and is suitable for the training of innovative talents. It has attracted the attention of medical educators and has been developed worldwide. In anatomy teaching, the problem-based teaching model is to directly organize the teaching process by solving practical problems, and is an important entry for the reform of anatomy teaching [6]. During the PBL teaching practice, anatomy is integrated into several sections. Compared with the traditional teaching mode, students in PBL method will be involved in histology, physiology, pathology, and pharmacology when they study each section. The time span is longer, and the knowledge is greatly increased. How to improve the teaching modes, change complexity, make the process simple, save time, and promote learning efficiency are the difficulties and key points of Anatomy and Histology and Embryology teaching.

2. Basic Elements of Pbl Teaching Mode in Anatomy Teaching

The problem of PBL is the key of the whole teaching process. The level of teachers' problem design directly affects the learning effect of students. The application of PBL in anatomy teaching is a problem worthy of exploration and further study. In the traditional teaching mode, anatomy teaching is divided into two parts: system and local anatomy, which students can learn in two semesters. Systematic anatomy is the first basic medical course for medical students. The medical knowledge of students is very limited. Only part of the content is suitable for PBL teaching method, so the selection of teaching content should be fully considered [8]. In the process of anatomy teaching, the students are required to have a sense of responsibility for the preparatory questions, review questions, case analysis and other learning tasks assigned by the teacher. They should take the questions to study the text and find relevant materials, and devote themselves to the problems. In the past, when learning the morphology of the nervous system, we knew nothing about the physiological function of the brain and the pathological changes of the central nervous system, and the space for receiving knowledge was limited [9]. If we study the knowledge of physiology and pharmacology directly, it seems that there is no organic connection. After the integration of the course, this problem has been completely solved. From morphology to function, from physiology to pathology to pharmacology, the knowledge framework has been effectively combined.

In the traditional teaching mode, teachers often instill theoretical knowledge mechanically in the classroom and students passively accept it. As a result, students don't know what the teacher is talking about, which are the key points of listening, whether the teacher understands and accepts the students, and which are the difficulties of students' listening. PBL teaching has many advantages, but we also find some factors that affect the teaching effect in the process of PBL implementation. As human anatomy is the first professional basic course that students contact, students lack the support of horizontal subject knowledge in knowledge structure, which brings difficulties to group learning. The core of PBL teaching mode lies in the integration of courses. Taking the sports system as an example, this section covers three subjects: systematic anatomy, histology and physiology. In PBL teaching mode, teachers should play multiple roles such as subject experts, resource guides and task consultants, and face multiple groups, which puts forward high requirements for teachers' knowledge and ability [10]. In the implementation of PBL, teachers should emphasize the importance of team cooperation and the role of social communication and cooperation. There are many problems in the application of PBL in human anatomy teaching. Firstly, the contents of systematic anatomy are not all suitable for PBL teaching, which requires the selection of contents. In the process of teaching, teachers should provide necessary learning materials, guide group leaders, and guide students to solve problems.

3. Application Characteristics of Pbl Teaching Mode in Pathological Anatomy Teaching

In basic medical courses, human anatomy courses are not only rich in content, but also mostly describe the morphology of human organs and systems, lacking logical reasoning. In the traditional teaching mode, students finish a course and get the corresponding scores after the examination. To a certain extent, this score can be used as an index to measure the students' learning effect, and is also the basis for evaluating the teaching effect. Since PBL teaching is interdisciplinary, learning in one section often covers several subjects. Take the sensory and nervous system segment as an example, which includes anatomy, histology, physiology, pathology and pharmacology. PBL is a learner-centered teaching method, which gives full play to students' learning initiative, develops students' ability to solve problems, utilize information resources and actively learn. PBL teaching is essentially a teaching mode. In the specific teaching process, one or more teaching methods should be adopted according to the subject characteristics, content, students' educational level and objective conditions [11]. Before learning each unit, the learning objectives should be clearly defined, and specific requirements should be put forward to the students, so that the students can understand the basic concepts and professional terms of pathological anatomy that need to be mastered, and then clinical pathological anatomy cases should be put forward.

In PBL teaching mode, the examination of students in each section covers the results of each single subject in that section, and the examination in each section cannot reflect the total results of a subject. Templates are constantly updated during the processing of video sequences. The buffer image data can be transmitted to the image data stream processing module for processing without pause. The speed of image preprocessing is improved, thus improving the overall performance of the system. When the frame rate is relatively high, the athlete moves from separation to full occlusion, or from full occlusion to re-separation. For partial occlusion, manual detection method can be used. Figure 1 is a manual detection program for image processing.

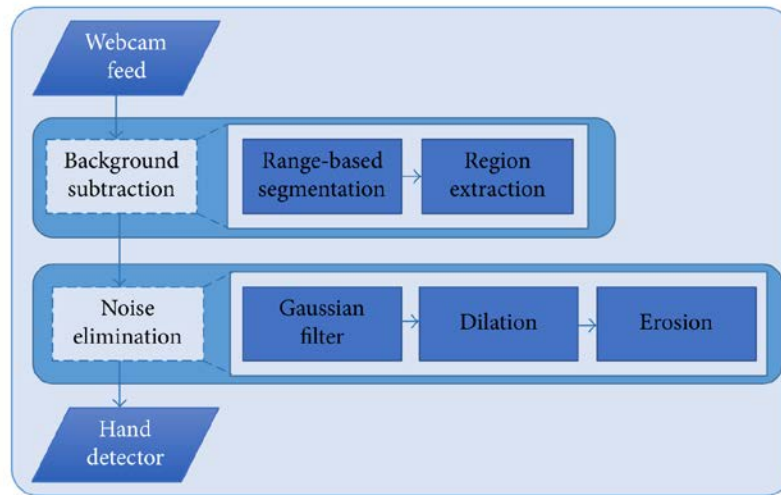


Fig.1 Manual Detection Procedure

The application of PBL teaching method in anatomy teaching is feasible and the teaching effect is positive. However, if these subjects are simply combined, it seems to conform to the teaching philosophy of PBL, but it actually makes a metaphysical mistake. The traditional teaching method is teacher-centered, the students are passive, mechanical, spoon-fed to accept knowledge, and lack of active learning initiative. Besides having rich subject knowledge and teaching experience, teachers should also play the roles of guider, promoter, consultant and evaluator. PBL teaching method is problem-based, student-centered, teacher-oriented, and focuses on cultivating students' problem-solving abilities and methods, rather than simply spoon-feeding knowledge. PBL teaching mode is to combine related disciplines organically, not mechanically. Anatomy is the first basic medical course that medical students first contact with, and their knowledge is very limited. In the process of PBL teaching, the questions set are mainly knowledge closely related to anatomy and clinic, or typical clinical cases. Students can master relevant knowledge comprehensively and systematically through autonomous learning. When reviewing students' homework and case analysis after class, teachers should pay attention to the process and ability of students' independent thinking, comprehensive analysis and problem solving, and timely feedback and accurately evaluate each student's learning situation.

4. Conclusion

Generally speaking, the application of PBL teaching mode in anatomy teaching has been very positive in both teachers and students, and has achieved satisfactory teaching results. The application of PBL teaching method in anatomy teaching is feasible and the teaching effect is positive. PBL teaching method has opened up a new way for pathology teaching reform, completely changed the teaching method of full house irrigation, and highlighted the student-centered position. In the process of anatomy teaching, students are required to have a sense of responsibility for the learning tasks assigned by the teacher, such as preview, review and case analysis. They are required to take questions to study the text and find relevant materials, and devote themselves to the problem. PBL teaching mode is to combine related disciplines organically, not mechanically. PBL teaching is essentially a teaching mode. In the specific teaching process, one or more teaching methods should be adopted according to the subject characteristics, content, students' educational level and objective conditions. PBL teaching mode is a good teaching method for cultivating students' ability, but it is a preliminary attempt for teachers after all, and still needs to accumulate further experience to make its application more perfect and skilled.

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