

The Research on the New Teaching Mode of Human Anatomy Based on “Internet +”

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Abstract: with the Advent of the Internet+ Era, the Form of Education Has Moved from Tradition to Innovation, Teaching Models Have Become Diversified, Teaching Content Has Been Enriched, and Teaching Achievements Have Become More Prominent. Make Full Use of the Advantages of Internet Teaching, in the Context of “Internet +”, Using Information Technology and Internet Platform, Using Virtual Simulation Platform, Mooc, Micro-Course and Other New Teaching Modes and Methods to Provide a Broader Perspective for Human Anatomy Teaching Reform Space.

1. Introduction

With the Rapid Development of the Internet and Computers, Electronic Devices Such as Computers and Mobile Phones Are Becoming More and More Popular, and the Teaching Mode of Colleges and Universities Has Also Become Diversified, Such as the More Popular Motto, Flip Classroom and Mixed Teaching Methods [1]. Anatomy is a Professional Basic Course in Medical Colleges. It Belongs to the Category of Morphology, with Intensive Knowledge, Large Amount of Information and a Wide Range of Contents. the Course Requires Students to Be Highly Practical and Operational, and to Gain Practical Experience through Practical Activities to Achieve Clinical Application. the Traditional Anatomy Teaching Mode is Basically Based on the Arrangement of the Teaching Calendar. the Students Sit in the Classroom, and the Teacher Stands on the Podium and Teaches the Class Students through the Blackboard or Courseware. the Quality of the Last Class in This Teaching Mode is Not Ideal [1]. Therefore, We Need to Find a More Effective Teaching Model to Improve Students' Interest and Enthusiasm for Learning.

2. Anatomy of Traditional Teaching Mode

Anatomy is the science of studying normal human morphological structure and its occurrence and development. Its fundamental task is to clarify the morphological characteristics, locational proximity, growth and development laws and functional significance of human organ tissues. There are a large number of terms in medical terms derived from anatomy, and anatomy is the unshakable cornerstone of the basic science and clinical medicine. However, the anatomy of the book has a lot of knowledge, professional terms are complex, and the anatomy teaching time is limited, the teacher “instilled” to teach, did not take into account the students' ability to accept. The main content of anatomy is to ask students to remember, and in the process of class, students are prone to fatigue, resulting in poor efficiency. In the experimental class, students are less motivated in the process of identifying specimens, and there are often students who gather and chat and bow down to play mobile phones. The content of the class is relatively old. Many teachers have been working on anatomy for many years, the content of the class has remained unchanged, and there is no latest research content and cutting-edge development.

The biggest problem with this traditional teaching method is the subjective transmission of the teacher and the passive acceptance of the students. The biggest drawback of this “teacher”-centered teaching model is the neglect of students' initiative, creativity and the cognitive role of students [2]. Although teachers use web-based technology in the teaching process, they only supplement traditional teaching and are essentially traditional courses. The long-lasting traditional teaching mode

will lead to the lag of teachers' teaching methods and methods. Students will only memorize the memories and cannot combine theory with practice. They are also helpless and cannot think about clinical problems.

3. New Problems and Challenges in Human Anatomy Teaching

Human anatomy is a basic medical course and a pre-requisite course, which is the basis and premise of other medical disciplines. Human anatomy is a closely related course of theory and practice [2]. However, the complexity of anatomical nouns, the anatomical content is boring, the reduction of anatomy time in recent years, the lack of corpse resource for teaching, etc. serious challenges. At the same time, with the wide application of modern network technology, the traditional “teacher-centered” teaching model is difficult to stimulate students' interest, and it is difficult to improve students' enthusiasm for learning. It has been unable to meet the requirements of modern teaching. To address the above problems and challenges, the current status of human anatomy teaching reform is reviewed in the context of “Internet +”.

4. Teaching Model of Human Anatomy under the Background of “Internet +”

4.1 Application of Medical Virtual Simulation Teaching Platform in Human Anatomy

The human anatomy course belongs to the morphological category. It is very important to observe the anatomical specimens in the experimental class for the study of the anatomy class. However, as the corpse specimens become less and less, we cannot make every student have the opportunity to fully observe. Anatomy of human specimens. The anatomical physical model plays a supporting role to a certain extent. It has the characteristics of being intuitive and convenient, interacting with students, explaining the image, and clearing the structure. However, the physical model is statically solidified and cannot reflect the hierarchical structure of the anatomical structure. The structure cannot be reproduced realistically, and the physical model has higher cost and higher damage rate [3]. The medical virtual simulation network teaching platform compensates for this deficiency to a certain extent. The anatomical virtual simulation only needs a visual computer operation interface and anatomical virtual software to realize complete reconstruction of all anatomical structures, and can realize anatomical reduction, peeling, etc. Function, the software is also equipped with text description, voice description, etc., as shown in Figure 1. In addition to the computer version of the software, the mobile version of the anatomical virtual software such as 3D body can also achieve these functions.

Compared with the traditional anatomical physical model, the medical virtual simulation teaching platform has the following advantages: 1) saving anatomical specimens. Physical models and physical specimens are damaged and are disposable. They cannot be reused after damage, and the virtual simulation platform can be used indefinitely, which greatly reduces the demand for cadaver specimens and models. 2) Teaching is no longer limited by time and space. Traditional anatomy teaching, students can only observe specimens and models in the laboratory, cannot be reproduced after class, and the virtual simulation platform allows students to simulate anatomical specimens in anatomical virtual software through their own computers and mobile phones after class [3].



Fig.1 Human Anatomy Simulation

4.2 Application of Pbl Teaching in Human Anatomy Teaching

The trend of teaching reform in colleges and universities, such as anatomy, is to change the main body of teaching activities from “discipline-centered” to “student-centered”. The focus of teaching work shifts from “course-centered” to “question-centered”. . To achieve “student-centered” and “question-centric”, PBL teaching method is an effective and efficient teaching method [4]. The human anatomy course is a basic course for students to enter the medical hall. It is very strange to students, the content is boring, it is difficult to attract students' interest, and students are very curious and interested in medical diseases, so PBL teaching is used, teachers propose relevant The medical case and the basic problem, let the students take the case to find the answer, set up the PBL study group, work together to propose the best solution to the problem, and finally the teacher and the student discuss, the teacher must play the subject expert, resource guidance in the process Multiple roles such as task and task consultants [4].

In the teaching of PBL, it is always “problem-centered”. At the same time, as the main body of teaching activities, students play subjective initiative in this process. Teachers only play the role of dialing and guiding at key points. In PBL teaching, students' learning atmosphere is relaxed and active, and it is easy to stimulate students' initiative. Students often express their own opinions on their own, and at the same time discuss different issues and cultivate students' autonomy and ability to learn.

4.3 Application of Mooc in Human Anatomy Teaching

In 2013, the MOOC swept China. In 2014, the first medical education group was established. The goal is to realize the sharing of high-quality teaching resources on the Internet platform through the construction of Chinese medical education platform and quality courses. Integration, better training medical and health talents for the motherland [5]. MOOC has its obvious advantages: First, resources are abundant, learners can find different types of curriculum resources on the MOOC platform; second, MOOCs are open and free, learners can obtain knowledge for free, the earth saves the cost of education. Third, the MOOC is an online course. The learner's study is no longer limited to the classroom. You can choose the right time to study according to your own situation. The complex and heavy teaching content of human anatomy and the small amount of class time make the students' enthusiasm for learning decline, and the use of MOOC can improve the teaching effect of the classroom and the learning ability of the students.

Using the platform of the MOOC, teachers provide students with texts, pictures, videos and case materials of relevant content before class, so that students can learn independently. In class, they mainly explain the difficult points in the learning process, and organize students to Study content for discussion, interactive Q&A, joint inquiry, etc. In addition, the use of the MOOC platform enables students to use their anatomical knowledge to discover problems independently, analyze and solve problems independently, improve the ability of information acquisition, knowledge update and

continuous learning, and continuously broaden their knowledge and improve their self-cultivation and business level [6].

4.4 Application of Flipping Classroom Teaching Mode in Human Anatomy Teaching

Flipped Classroom refers to reversing the traditional teaching mode, re-adjusting the time inside and outside the classroom, and putting the learning of new knowledge in front of the class. The class is based on group collaboration and teacher Q&A. Flipping the classroom is a new type of teaching mode for students to learn before class, interactive discussion between teachers and students, and knowledge internalization. It is also a modern medical education learning method with “student-centered, teachers as counseling” [5]. Flipping the classroom design in the anatomy course: First, the teacher issues the task before the class, and provides the student with the corresponding video materials, courseware and ways to find related materials. Secondly, in the classroom, the student group reports with the PPT. In the form of explanations; again, the teams summed up the lessons and difficulties of the course. After that, the teachers focused on the answers to the problems and difficulties, and combed the knowledge of the whole class. Finally, after-school analysis and summary, suggestions or suggestions [7]. By flipping the classroom mode, students' self-learning ability can be improved, teachers and students interact well, and students' organizational collaboration ability is cultivated.

4.5 Application of Micro-Course in Human Anatomy Teaching

Micro-course refers to the whole process of the wonderful teaching and learning activities carried out by teachers in the knowledge points or teaching links around a certain course with video as the main carrier. Its characteristics are short and fine, and the video is usually 3~5 minutes. There are many knowledge points of human anatomy, and the correlation of various knowledge points is not big. In many explanations of knowledge points, micro-class assisted teaching can be applied to improve students' enthusiasm [8]. First of all, the micro-course can display anatomical knowledge through sound, image, animation and other forms, as shown in Figure 2; secondly, the micro-course is short and precise, directly highlighting the theme, so that students can grasp the knowledge points more accurately; again, The abstract knowledge points (such as the conduction of the heart and the nerve conduction pathways) that cannot be seen on the anatomical specimens are displayed in the form of micro-courses, which are more vivid and vivid, which makes the students easy to understand. Finally, the micro-courses are based on video. The application is not limited by time and place, and can be studied or further reviewed at any time, which improves the learning efficiency of students [8].



Fig.2 Human Anatomy Image

5. Summary

With the rapid development of Internet technology, higher education needs to conform to the trend of the times and improve the quality of education with new technologies and methods. We cannot deny the traditional teaching model, but we need to update it on the basis of tradition. Based on

traditional teaching, a variety of teaching methods are combined to carry out anatomical teaching, and the theory is linked with reality. Of course, the new teaching model also puts higher requirements on intelligent terminals, networks and software devices. It requires a lot of manpower, material resources and capital investment, and requires multi-disciplinary and multi-disciplinary cooperation to build a gradually improved Internet education platform.

In the future, Internet technology will bring tremendous help to anatomy teaching. A variety of new teaching models and teaching tools will continue to emerge. In this information age, we can keep abreast of the latest anatomical progress and learn about cutting-edge technologies. As the cornerstone of medicine, anatomy firmly grasps the knowledge of anatomy, which can lay a solid foundation for the follow-up study of clinical medicine.

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