

## The Application Research of Information Teaching Mode in Clinical Biochemistry Teaching

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**Abstract:** Modern Informatization Teaching Has Gradually Penetrated into the School Teaching, Which Makes a Series of Changes in the Teaching Mode and Teaching Environment of Teachers. Informatization Teaching Has Many Advantages in the Teaching of Biochemistry. These Advantages Are the Reasons for Promoting the Application of Information Teaching in Biochemistry Teaching. This Article Describes the Application of Informational Teaching Mode in Clinical Biochemistry Teaching.

### 1. Introduction

The modern educational technology platform is a base for teachers to carry out teaching, research and training of teachers' teaching quality, and also creates favorable conditions for students' learning and practice. The application of information technology in the field of medical education and the realization of the teaching mode of "multiple learning and teaching" are the needs of the development of contemporary talents and the needs of the development of the times [1]. Through the integration of information technology and the teaching process of medical education, the organic integration of multi-disciplinary learning and teaching can fully mobilize the initiative, enthusiasm and creativity of students, promote the improvement of students' innovative ability and practical ability, and at the same time, the teaching quality of teachers, The ability to improve teaching and information technology has an important role to play.

### 2. The Connotation and Characteristics of the Informational Teaching Mode

The information-based teaching model is characterized by the support of information technology and involves the guidance of modern teaching concepts and the application of modern teaching methods. It refers to the comprehensive use of computers, multimedia and advanced information related to network communication in the field of education. Technology, to develop educational resources, optimize the educational process, promote the comprehensive reform and development of education, and thus adapt to the new requirements of the information environment for the development of education. In the informatization teaching mode, the emphasis is on combining information technology and information resources with teaching practice in teaching, focusing on specific teaching objectives, using information technology authors and information resources, and comparing real or near-real reproductions through innovation [1]. The ideal teaching and learning situation, to play the subjective initiative of students, and then cultivate students' ability to learn independently. Under the informatization teaching mode, it is conducive to highlighting the subjective status of students and creating a good atmosphere for teachers and students to work together.

To realize the deep integration of information technology and education, we need to take advantage of information technology to improve the "teaching and learning environment" and "teaching and learning methods", that is, to realize the fundamental changes in the classroom teaching structure, and further realize the "structural reform of the school education system." ". Informatization education is mainly composed of two parts, namely, the teaching of informationization and the teaching of informationization. Through the organic integration of

information technology and curriculum, information education can cultivate and improve students' information literacy and cultivate innovative talents that meet the requirements of the times [2]. However, teachers should have certain information literacy to be accurate in the integration of experimental information and education. Grasp the classroom and achieve good teaching results.

### **3. The Advantages of Informational Teaching Application and Biochemistry Teaching**

Applying information technology to biochemistry teaching has the following advantages:

#### **3.1 Get Enough Teaching Resources Quickly**

Adequate teaching resources are conducive to teachers' teaching plans and the design of teaching PPT. At the same time, teachers can also obtain many missing knowledge points through computer, perfect in the process of review, which can not only promote students' enthusiasm for learning, but also make teachers' teaching more efficient [2].

#### **3.2 Make Teaching More Distinctive**

Because computer technology has the ability to simplify many more complex practices, students can learn more about some of the biochemistry's learning materials through computers, and through their analysis and summarization, they can enhance their practical ability.

#### **3.3 Conducive to the Formation of Students' Subject Status**

Since informatization teaching is not limited to teachers' access to materials, students can also access relevant materials through clues provided by teachers, which reflects the subjective status of students, and teachers play a more guiding role in this process.

#### **3.4 Improve Computer Skills for Teachers and Students**

As for teachers, the use of computer teaching for biochemistry teaching is of great help to improve teachers' computer operation ability. In terms of students, students can master the basic theories of computer application through computer teaching [2]. Through these basic theories, they are conducive to cultivating their own information technology literacy.

### **4. Integration Advantages of Information Technology and Clinical Biochemistry Courses**

Information technology and curriculum integration have unparalleled advantages over traditional teaching. The advantages of the informatization teaching model of clinical biochemistry testing courses are:

#### **4.1 Realize the Intuitiveness, Vividness and Image of Teaching**

In the information teaching, multimedia courseware is an indispensable teaching tool. In the teaching process, the advantages of multimedia courseware can be utilized to transform abstract knowledge into vivid pictures and videos, thus mobilizing students' thinking, which can facilitate students' understanding of abstract knowledge and make use of favorable teaching situations, which will help students to be relevant. Contents are linked and summarized, and the more advantageous is to promote students' strong desire for knowledge [3]. For example, when learning the content of insulin resistance, we use the image and video to visually show the effect of insulin and the effect of insulin resistance, so that in a relaxed teaching atmosphere, students have enough knowledge of knowledge and can It has changed the phenomenon that the teaching methods in the past are boring and the classroom atmosphere is dull, which has improved the teaching effect.

#### **4.2 Integration of Information Technology and Clinical Biochemistry Curriculum to Realize the Diversity, Artistry and Fun of the Teaching Process and Teaching Methods**

Appropriate use of pictures, animations, and videos in the teaching process can not only visualize the abstract content, but also increase the artistry and fun. For example, when learning the part of pregnancy biochemistry, the development of the fetus can be visualized, vividly and stereoscopically

displayed using information technology. Using information technology to combine flash animation with teaching resources can visually illustrate the characteristics of fetal development and increase the fun of the classroom, rather than simply letting students remember [3]. In this kind of teaching situation, students' interest in learning can also be improved, and students will have a strong desire for knowledge.

#### **4.3 The Integration of Information Technology and Clinical Biochemistry Courses is Conducive to Students' Independent Learning**

Traditional teaching mode students are often passively accepted, and learning lacks initiative and exploration. The instructor is also unable to effectively teach students in accordance with the situation of different students, and is limited to a limited time in the classroom, which is not conducive to the comprehensive knowledge of the students. The integration of information technology and curriculum can make use of the time and space flexibility of information technology to help students better grasp the relevant knowledge [2]. For example, this part of atherosclerosis has more knowledge points and more close integration with clinical practice. The knowledge that students understand is very limited only through the teaching of teachers in the classroom. The integration of information technology and curriculum allows students to selectively acquire knowledge through multiple channels according to their own situation. This model can effectively mobilize students' interest in learning, which is more conducive to students' knowledge and satisfaction. The use of modern and advanced communication technology also provides a good platform for fragmented learning, so that students' learning is not limited to the complete time of the classroom. Use students to actively become the builders of knowledge, improve students' interest in learning, and thus achieve good learning results.

#### **4.4 Information Technology and Clinical Biochemistry Curriculum Integration to Give Students a Subjective Initiative**

According to the catalogue of undergraduate majors in ordinary colleges and universities set up by the Ministry of Education, the medical laboratory has changed from the original five-year system to a four-year system, and at the same time, it has been awarded a bachelor's degree in science. The business training requires students to study basic medicine and clinical medical examination. Basic theoretical knowledge of the aspect, and trained by the medical test operating system, with the basic ability of clinical medical examination and health inspection. The integration of information technology and clinical biochemical testing courses can help students understand the latest clinical related testing projects, and at the same time inspire students' scientific research spirit. Under the conditions of open laboratories, efforts should be made to cultivate students' innovative ability and achieve effective extension of the classroom [4]. However, at present, the clinical biochemical test courses in our school have outdated equipment, and the experimental teaching emphasizes the teaching of knowledge. Some of the teaching contents are out of line with the clinical practice and the development status of modern medical tests, which cannot effectively meet the demand for talent training. The integration of informational teaching with clinical biochemistry makes students an active builder of knowledge information. For example, the establishment of a comprehensive clinical biochemistry experiment is conducive to the development of students' divergent thinking, innovative thinking and innovative ability.

#### **4.5 Information Technology and Clinical Biochemistry Curriculum Integration to Play the Team Spirit of Students**

Group dynamics is a study of the internal forces of the organization. It refers to an “energy” derived from the internal group. The theory of group dynamics provides important inspiration for the teaching model of cooperative learning. Under the guidance of cooperative learning ideas, students collaborate to discover, explore, and solve problems, thus completing the learning tasks, and have some insights and creations. The use of information technology will make the advantages of this teaching model develop better [5].

Under the condition of information technology, students can effectively use information resources, further strengthen students' subjective consciousness and participation consciousness, emphasize the

completion of students' own knowledge construction in practice, and foster the cooperation spirit of students, and benefit the cultivation of innovative talents. For example, when teaching the content of glucose metabolism disorder, we use case analysis to allow students to freely group, with the support of information technology, through analysis of cases, search for data, hands-on experiments, production reporting PPT, reporter reporting, inter-group Grading, intra-group evaluation and other methods enable students to have a complete understanding of the disorder of glucose metabolism, and at the same time, they can integrate the knowledge of pathology and physiology, and design experiments and experiments to improve the practical hands of students [4]. The production of courseware reflects the mastery of information technology among the students in each group. The students in the group collaborate and the scores between groups and the scores within the group. It reflects the spirit of cooperation, tolerance and critical thinking of the team members. Reporting is an effective way to demonstrate and enhance group and individual abilities. Through this kind of learning, students not only play a personal initiative in the whole learning process, but more importantly, strengthen the mutual cooperation of students, and the strength of such a team is powerful and cannot be ignored.

## **5. Problems in the Integration of Information Technology and Clinical Biochemistry Courses**

### **5.1 Teaching Content is Not a Complete Information System**

The content of clinical biochemistry teaching is independent, and the connection between chapters is poor. It is difficult for students to achieve integration. Some teaching contents are digital, abstract and boring, and it is difficult to form a complete information system.

### **5.2 Information Technology Does Not Deal with the Relationship between Teachers, Students and Textbooks**

The integration of information technology and curriculum focuses on the leading role of teachers and the subjective status of students. Textbooks are the carriers of teaching content and learning tasks. Therefore, it is necessary to properly handle the relationship between the three. After the integration of information technology and curriculum, students should achieve self-learning under the correct guidance of teachers, and teachers should be able to reconcile the classroom [5]. In the current teaching process, teachers tend to focus too much on the use of modern technology, regardless of content and actual teaching needs, blindly use a variety of media, neglect the cooperation of teaching methods, and even ignore the textbooks out of the textbook.

## **6. The Application of Informational Teaching in Biochemistry Teaching**

### **6.1 Application of Classroom Teaching**

In the teaching of biology and chemistry, if the traditional teaching method, because the organism involves the study of the internal system of the human body, the traditional teaching method is difficult for students to intuitively understand the circulation in the human body. However, after being infected with informational teaching, students can learn. Teachers can search for relevant information on the Internet, and can collect sounds, pictures, and animations. They can also directly search for related animations [6]. Through this animation process, students can clearly understand the circulation in the human body.

At the same time, because the data contained in information technology is quite large, teachers can fully link theory with practice through information channels, so that students can learn knowledge not only to learn knowledge, but also to learn knowledge with knowledge. This achieves a combination of theory and practice.

### **6.2 Application of Experimental Teaching**

Chemical experiments need to arrange students to work in the laboratory as much as possible.

Before the teacher starts the formal experiment, the teacher should let the students know the general operation process of the experiment through the computer, and then give the student another operation amount, let the students calculate the corresponding quality ratio, and avoid the infusion teaching in the traditional teaching. Students have a weak grasp [6]. In particular, the configuration of the reagents must be manually operated by the students to deepen the impression and correct some of the errors that are easy to occur.

## 7. Summary

Education and teaching reform and education informatization have become an unstoppable trend. They have far-reaching significance for deepening education and teaching reform, improving teaching quality and educational efficiency, and are also the inevitable choice for realizing the comprehensive development of education and cultivating innovative and applied talents. At present, the development of integration of information technology and clinical biochemistry courses has achieved certain results, but there are also many problems. Therefore, teachers need to continuously explore, sum up valuable experience, and better realize the learning mode of multi-disciplinary learning and teaching, for clinical biochemistry.

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