

The Exploration of Internet plus Experiment Mixed Teaching Mode in the Teaching of Functional Experiment¹

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Abstract: With the advent of the Internet era, the information network platform has gradually infiltrated into the teaching of functional experiment. Medical development and the society's requirements for medical and health personnel are constantly improving. In order to keep abreast of the development needs of the times, various colleges and universities actively carry out teaching reform. The teaching reform has brought new opportunities and challenges to the development of medical colleges and universities. Through understanding the application of information technology in classroom teaching, this paper explores a new teaching mode, and studies innovative strategies in functional experiment teaching, so as to achieve the purpose of improving teaching quality and effect.

Keywords: Internet Information Platform; Functional Experiment; Experimental Teaching; Reform in Education

1. Introduction

In the context of the new era, the main task of higher education is to cultivate high-quality talents with innovative ability. Practical teaching helps to improve the quality of teaching, so as to cultivate outstanding talents. Functional experiment covers physiology, pharmacology and pathology, which is the core content of the "Three Principles" experiment course. The content includes basic experiment content and innovative experiment link. It is reasonable, scientific, innovative and practical^[1]. It is of great significance for the realization of "Golden Course" teaching to effectively cultivate students' innovative thinking ability and the development of comprehensive experiments. Nowadays, in the context of the continuous development of Internet plus information technology, the traditional medical teaching model has faced new challenges. The application of Internet technology in functional experimental teaching is conducive to promoting the innovation and reform of medical education methods and teaching models, and is the only way to open the limitations of traditional teaching models, which can cultivate students' ability to calmly face various emergencies in their future work, and provide a strong guarantee for the smooth development of students' future work.

2. The present situation and problems of functional experiment teaching

2.1 Teachers' awareness of using Internet plus platform to teach is weak

Under the influence of traditional teaching, most teachers, in order to improve students' learning interest in functional experiment teaching, still continue to use the traditional teaching mode. The use of traditional teaching mode is practical operation on medical instruments. This on-site operation mode helps teachers to intuitively see students' skill mastery. Teachers have a questioning attitude towards the integration of Internet plus teaching in teaching, It is not conducive to the development of Internet plus in medical education^[2].

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2.2 Lack of innovation in teaching mode

Functional experiment is a subject with strong practicality. Teachers still use the traditional teaching mode to teach, which exposes many problems in teaching. Medical knowledge has the characteristics of strong basic theoretical knowledge and many basic operations, which requires students to pay attention and listen carefully at all times. Students are slightly distracted when listening to the class, and it is easy to be unable to understand. Because each student has different learning ability, understanding and absorption of knowledge, and there are individual differences, the traditional teaching of teachers can no longer meet the individualized teaching needs of students, and can not play a role in teaching.

3. Effective strategies for optimizing Functional Experiment

In order to train students with innovative thinking ability, independent learning ability, independent thinking ability and practical ability, medical colleges and universities should actively improve the teaching effect and quality, optimize the deficiencies in teaching, actively integrate Internet information technology innovation teaching mode, and enrich teaching content, experimental information and other measures, in order to create online and offline hybrid teaching and ensure the quality of teaching.

3.1 Changing teachers' teaching ideas and strengthening teachers' strength

Medical colleges and universities should strengthen the ideological teaching concept of teachers. Teachers are the guides and implementers of teaching and educating people. They should carry out student-centered teaching to enhance students' enthusiasm and interest in learning, which can cultivate students' ability to learn independently, be good at thinking, and have the courage to innovate and practice. Teachers should strengthen the reform of teaching, constantly improve their theoretical knowledge and experimental technology, which can effectively improve the quality of teaching.

3.2 Teaching with PBL mode

PBL teaching forms are diversified, and the quality of PBL teaching is directly related to teachers. Teachers need to combine the actual situation, define the teaching objectives, and have a certain understanding of the teaching content, teaching knowledge structure and students' ability level. On the basis of these factors, they should comprehensively consider and choose the appropriate PBL teaching scope. PBL teaching can stimulate the effect of students' independent learning, deepen students' ability to think deeply about problems, enable students to consider and analyze effective methods to solve problems from multiple perspectives when encountering problems, stimulate students' desire for exploration and knowledge, which can enable students to learn with a positive and active attitude, actively consult literature, and actively learn about medical software and master practical operation technology, in order to cultivate students' ability to think independently and study together.

3.3 Application of online teaching

3.3.1 Teaching with network platform

With the continuous development of modern information technology, building a shared functional experiment network platform can break the limitations of classroom based teaching sites. Network platform teaching is characterized by freedom from space and practice. Students can learn anytime and anywhere, which can improve the communication efficiency between teachers and students. When students encounter problems they do not understand, they can ask teachers for advice in a timely manner through the social platform, which improves the communication between teachers and students. At the same time, we can also innovative teaching forms such as micro classes and flipped classrooms can stimulate students' enthusiasm for learning and cultivate their ability to learn independently.

3.3.2 Innovating teaching forms and strengthening communication between teachers and students

Teachers can upload teaching resources to the network to realize the sharing of teaching resources. Students can learn without the limitation of time and space, and help students to keep healthy in the habit of independent learning, so as to improve the quality of students' experimental learning. Teachers can also use flipped classroom teaching in classroom teaching, students after learning knowledge content, has a certain degree of knowledge content, based on this in the flipped classroom, let students do not understand the problem, can through social software timely communication with teachers, improve the efficiency of the students take the initiative to think and analysis, cultivate students' research spirit, and lay the foundation for the subsequent teaching discussion.

3.4 Online and offline mixed teaching

3.4.1 Reuse of network resources

In the online and offline classroom teaching, teachers integrate the key and difficult points in the online experiment to check the students' mastery. Through the multimedia classroom, we can play network videos to discuss knowledge points and explain difficulties with students. At the same time, the whole teaching process before, during and after the experimental teaching is also completely summarized to deepen the students' grasp of knowledge points, which not only checks the students' knowledge mastery, but also enhances the students' success rate of experimental operation and comprehensive thinking ability.

3.4.2 Optimizing experimental teaching equipment

In the context of the continuous development of science and technology, the teaching equipment of the laboratory should keep pace with the times, keep up with the trend of the times, update the old and outdated equipment, and introduce new equipment is imminent. From the current situation, in the traditional equipment and instruments, each equipment is lack of close contact. The introduction of scientific, digital and intelligent equipment can reduce the financial pressure of the school on software and hardware equipment, and realize a modern smart laboratory, in order to improve the conditions and facilities of the laboratory, make the experimental equipment and instruments closely linked with teaching, and greatly improve the quality and effectiveness of teaching.

4. The significance of online and offline mixed teaching

The application of online and offline mixed teaching in functional experiment teaching can break the limitations of traditional teaching, which lacks innovation in teaching mode and form. There are a large number of instruments and equipment, which are not closely related, and there is a problem of resource waste. In the practical teaching, it is unable to meet the needs of individual differences of students, and there are problems that can not improve students' interest and teaching quality, which hinder the development process of information science teaching. Through the integration of scientific and reasonable application of information technology, online and offline mixed teaching can be realized, which can clearly understand students' mastery of theoretical knowledge and experimental operation. Through micro course courseware, video, PPT, virtual simulation and other teaching, teaching resources and teaching forms are enriched, students' enthusiasm and initiative for learning are greatly enhanced, and students can better master knowledge.

5. Conclusion

In the context of the development of the information age, the implementation of educational reform and innovation, the integration of information technology in teaching, enriched teaching resources and teaching models, the use of virtual simulation experiment teaching instead of traditional teaching operations, effectively solved the problem of waste of equipment resources, through flipped classroom teaching to cultivate students' creative thinking level, through PBL teaching mode to cultivate students' ability to think independently. Online and offline teaching helps students consolidate knowledge content, and greatly improve the quality and effect of teaching.

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