

Research on the Applications of Multimedia Auxiliary Teaching System with the Computer to the Education of Clinical Medicine

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Abstract. In this paper, we conduct research on the applications of multimedia auxiliary teaching system with the computer to the education of clinical medicine. Clinical medical education and other related disciplines of education both identity and particularity and it is not just to teach the traditional medical theory and principle. More need to understand the modern medical development and the latest development of medicine. Our research provides the novel paradigm of the multimedia and computer assisted education mechanism which will be meaningful.

Keywords: Multimedia Auxiliary Teaching System; Education of Clinical Medicine; Computer.

Introduction

With the rapid development of modern medicine in clinical medical teaching timely update the theoretical knowledge of practical skills at the same time continuously absorb and use advanced teaching technology, especially computer and all kinds of modern teaching aids in the teaching of clinical use more and more common traditional lectures teaching role in clinical teaching in gradually weakened and computer multimedia projector and teaching software is becoming more and more significant in clinical teaching of the importance of multimedia teaching has become an inevitable trend of the clinical

teaching development of multimedia teaching level directly affects the quality of clinical teaching. Clinical medical education and other related disciplines of education both identity and particularity, it is not just to teach the traditional medical theory and principle. More need to understand the modern medical development and the latest development of medicine. Along with the modern information technology such as computer and network technology development and innovation constantly, traditional clinical medicine teaching technology and communication has far couldn't keep up with technology update speed, the traditional clinical medicine teaching is difficult to directly show the structure of the human body, disease occurrence and development process of the teaching content, seriously affecting the effects of medical education. Because the patient ego to protect consciousness enhancement, patient-centered medical model reform is developing rapidly, the traditional clinical cases and demonstration teaching methods, more and more difficult to carry out individual medical colleges have to patient models to meet the needs of the clinical teaching. However, the use of multimedia technology and Internet resources will make clinical medical teaching intuitive problem solved which will be convenient and efficient [1].

Traditional clinical medicine teaching methods as well as other subjects teaching method, teaching process are the main elements of students, teachers and teaching contents of

three parts. With the rapid development of computer and go deep into the various aspects of social life, education technology is improving and education methods, the application of multimedia technology to make modern teaching process by the students, teachers, teaching contents and teaching techniques of four parts. The application of multimedia technology will change the cognitive styles of students in learning and cognitive process. Stimulate the learning motivation. Make up for the inadequacy of traditional teaching mode of clinical medicine, the breakthrough of the old teaching methods, form a new teaching mode, improve teaching efficiency greatly which could think that the multimedia technology is an important means of clinical medical teaching [2-4].

The general applications of the computer based education approaches could be summarized as the follows. (1) Medical experiments demonstrate. In the demonstration some important physiological phenomenon and the experimental process, the video data is indispensable. This requires use of multimedia computer video processing technology. In the interpretation of the medical experiment about the content, can use a digital camera or digital video camera to shoot the scene, and then made into multimedia courseware, timely broadcast in class. Use of multimedia video, audio and video functions, 'can collect all kinds of medical

images, video material, inspire the enthusiasm of students learning, in effect more than single classroom teachers of oral interpretation. (2) Multimedia technology and network technology. The use of multimedia video and audio technology development mature electronic courseware, Internet laboratory, network teaching resource database is established. Teachers, according to the relevant teaching content can be layered lead students to learn, simple to achieve mastery through a comprehensive study, the purpose of the master system. (3) Medical practice design. Multimedia courseware with the menu function of computer software, students can, according to its own characteristics and requirements of flexible learning content selection, vary from person to person, can skip the oneself think shallow project not learn of the issues which also can be unlimited repetition personal feel difficult complex content until thoroughly grasp is not easy to understand. (4) Medical animation simulation. Medical physiology activities of some not taken directly to the dynamic process, often is the emphasis and difficulties in teaching. Through computer animation can well simulate the physical process, make the teaching content more intuitive image and easy to understand. The figure one shows the basic structure of the methodology.

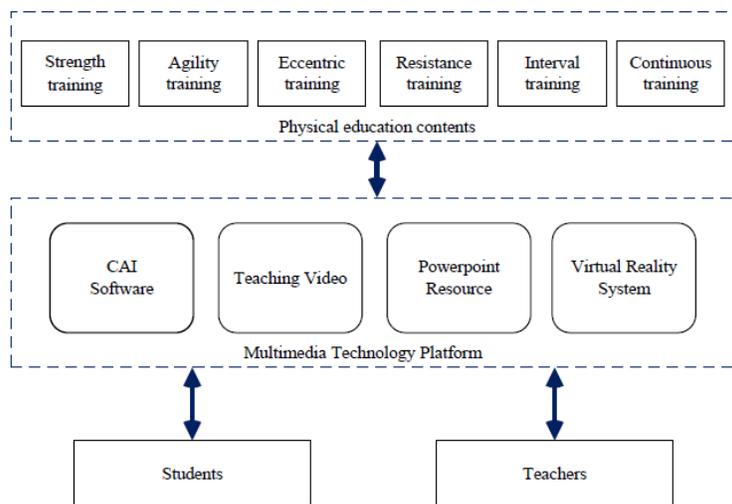


Figure 1. The Basic Structure of the Proposed Multimedia System

In this paper, we conduct research on the applications of multimedia auxiliary teaching system with the computer to the education of clinical medicine. Use of multimedia technology in the continuous reform in the teaching process, and set up the student-centered teaching mode, stimulate students' interest in learning in the teaching process, is the top priority of medical education in colleges and universities. Therefore, the teacher must constantly explore effective modern teaching method. The application of multimedia technology to the medical teaching reform brought to life and promote. In the following sub-sections, we will introduce the detailed parts of our proposed methodology.

Our Designed Methodology and Novel Approach

The Multimedia Education. The composition and function of clinical skill training center establish a fully functional, relatively independent clinical skill training center, including the basic clinical skills training platform, clinical specialist skills training platform, clinical comprehensive. Medical research object is a disease of knowledge, the contents of the textbooks are abstract or complex, students feel strange, it is difficult to obtain directly the life experience to confirm, these requirements, a professor of language teacher alone could not be achieved, the use of traditional teaching methods are difficult to break through the key and difficult. And using multimedia education technology, can change the abstract for specific, become silent for audio, and delicate audio-visual with excellent pictures and texts, all appropriate forms of activity, greatly enhance the students' understanding of things and processes and feelings, to mobilize students' various senses work together to strengthen awareness, greatly saves classroom teaching time, deepen the student to the knowledge of multi-level and multi-angle stimulus to master, and can make use of spare time to guide students for deep exploration and grasp of medicine.

As the teaching content of respiratory distress syndrome, in order to make students understand the pathological changes and specially for the typical pathologic multimedia images, combine the pathological basic subjects and clinical medicine, cross disciplinary boundaries, so that the students in the knowledge of clinical medicine at the same time to review the basic knowledge, further realize the patient breathe difficulty is due to a large number of fluid seepage in alveolar, vivid and novel, the students reflect the most difficult knowledge points because of the change of teaching method, is easy to grasp which also improve the teachers' teaching self-efficacy. The traditional teaching mode is the general education workers through long-term practice and research institute summed up an effective teaching mode, the current teaching mode is still can't be out of the traditional teaching method, multimedia teaching means can only as a "secondary" effect, but cannot completely replace the traditional teaching mode. If too much emphasis on the advantages of multimedia teaching, and neglected the student main body status in the classroom teaching, teachers' leading role, the emotional communication between teachers and students class, weakened the teachers' teaching art and to wing ability, it is not in conformity with the students' cognitive regularity.

Multimedia network teaching provides various forms of multimedia material makes it more abstract content is more vivid concrete such as ever in static tremor and intention tremor identify when teachers only by imitating the action to enhance the effect of the verbal narration but imitate action lack of sense of reality, after all, we adopt the dynamic effect of the typical patient video clips attached to explain make the process more simple and clear accurate additional multimedia teaching can change within the limited teaching time provide a large number of color images help teachers from different angles the relationship between different viewpoints on the anatomy of the

nervous system to show clearly and concisely makes it easier for students to establish the structure of the various spatial orientation concept and complex definitions.

The Computer Assisted Instruction and Education. With the arrival of knowledge economy, the information superhighway strong unceasingly, the wide application of information technology education to the university campus is closely connected with the Internet global information network, information technology and network will be open for the modern clinical medicine education broader space, the development of network technology will lead to clinical medical teaching contents and means to produce fundamental change. Using computer network, the teacher in the classroom can be more vividly described some special concept, obtain the latest data, through the network used in the analysis and discussion, through the network sharing, body of teaching resources, make the clinical teaching more image and vivid. The development of modern digital hospital and the clinical medical students' ability of computer information requirements also more and more high, grasp the medical computer information application ability is the essential ability of contemporary medical students. Due to medical students during the period of study and practice, rarely contact medical computer network knowledge education, caused the hospital hardware facilities are very advanced now, but the medical students knowledge of the software is very scarce, and does not have ability to work in the clinical study and using the computer, make hospital hardware facilities cannot give full play to the role. Clinical medical education and other disciplines of education both identity and particularity, it is not just to teach the traditional medical theory and principle, more need to understand the development of modern medicine and the latest development of medicine.

Along with the modern information technology such as computer and network technology development and innovation

constantly, traditional clinical medicine teaching technology and communication has far couldn't keep up with technology update speed, the traditional clinical medicine teaching is difficult to directly show the structure of the human body, disease occurrence and development process of the teaching content, seriously affecting the effects of medical education. Because the patient ego to protect consciousness enhancement, patient-centered medical model reform is developing rapidly, the traditional clinical cases and demonstration teaching methods, more and more difficult to carry out individual medical colleges have to patient models to meet the needs of the clinical teaching. However, the use of multimedia technology and Internet resources will make clinical medical teaching intuitive problem solved which will be meaningful.

The Applications and Implementations. Multimedia courseware has a clear purpose and targeted on the production. Teachers making courseware is the basic starting point of this class of content, according to the requirements of the syllabus extract key and difficult points as the main content of the courseware, for surgery of study, mainly is the combination of anatomical and physiological functions of medical, is given priority to with pictures and insert the small video assisted teaching. It is conducive to college students in the teaching effective draw points from complex knowledge and promotes their understanding of the difficulty. Now, the computer provides very good conditions for our surgical teaching, we can according to the requirements of specific teaching to produce a variety of courseware. Because of medical college students' learning ability and practice ability are relatively limited, and most of the students are reluctant to take the initiative to independent thinking, so we have to do is show through the courseware to inspire students' interest in active learning, so the courseware can't be a simple text accumulation, to be more clear and more clear and more attractive, so we use multimedia teaching content can be through the

integrated application of some medical images, video and animation to enhance the students' visual impact surgery, some boring numbers can also use the data in the form of a general show them, make them easy to compare the memory.

Modern surgery education has obvious difference with the traditional teaching mode, mainly is the large amount of information, more focus on practical, image information and the surgical field inserts are more abundant, so multimedia teaching just cater to these needs. Although the use of multimedia teaching process is easy to appear some themes of deviation, but as long as we pay attention to grasp some matters needing attention of using multimedia can better achieve the purpose of using it to promote surgery teaching and the enhance the performance of the classes.

Conclusion

In this paper, we conduct research on the applications of multimedia auxiliary teaching system with the computer to the education of clinical medicine. The Internet provides a new opportunity for the development of medical education reform and the necessary technical means are brewing and undergoing profound changes like never before. Multimedia network teaching compared with remote consultation management information system has the characteristics of small investment quick effect and significant is the important content of medicine teaching reform. Multimedia network

teaching can change the traditional teaching mode on the one hand, it provides a number of specific image information to make a change from simple memory to the concrete understanding on the other hand, it increases the initiative of students of information not only improve the utilization of time has changed the past the monotonous exchange of information from teachers to students. In the future, we have scheduled to conduct more literature review to modify the current methodology.

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