

Pedagogy Research Based on Artificial Intelligence Technology and Digital Economy Product R&D -Research on education information system based on virtual reality technology, taking Hunan Medical University of China as an example

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Abstract: We have studied the research and development of digital economy products by using artificial intelligence technology. Its core is to use virtual reality technology to solve the problem of functional design of educational information system. At the same time, we have put forward an innovative computer model and combined the application program of computer client to integrate the entertainment function into the overall educational information system. This strategy can solve the problem of students' enthusiasm for learning. At the same time, we analyzed Hunan Medical University in China and conducted research. Through the research results, we completed the market economics prospect analysis of the education information system. The core of the digital economy product is market oriented. Therefore, the research team conducted a sociological experiment. The research team currently analyzes and reports the engineering model design and digital economy product development, as well as the experimental results and data, and discusses them at the end.

Keywords: artificial intelligence technology, digital economics, virtual reality technology, education information system, computer engineering, economy, trade, sociology

1 Background

The extensive application of modern information technology has made rapid development in various fields. Computer multimedia assisted instruction, a modern educational technology, has been gradually promoted and applied in universities, secondary technical schools, primary and secondary schools. Compared with traditional teaching methods, it has the advantages of large amount of information transmission, multiple sensory stimulation, convenient operation, easy learning and use, and strong interaction ability. CAI courseware for auxiliary teaching made of multimedia technology can organically combine teaching content, showing the unique function and strong performance effect of computer multimedia. The purpose of

information-based teaching is to take students as the main body of the classroom, pay attention to the application of situational models in the teaching process, have high requirements for the learning environment, and be good at mobilizing a variety of learning resources to serve students. Realizing the integration of modern information technology education and computer science, integrating various teaching resources, teaching elements and teaching links through the arrangement and combination of information technology tools, to achieve overall optimization, and finally become a part of the curriculum. Only by effectively recognizing the advantages of the information based teaching model in the entire teaching process, can teachers adapt to the circumstances in the teaching process and achieve the ideal teaching purpose. [1-5]

VR virtual reality technology can also use computers, interactive peripherals and software to build a virtual production environment, so that employees can freely communicate with the manufacturing process on the screen as if they were on the manufacturing site. Virtual reality technology based on network provides learners with a new learning scene and constructs an open teaching environment. The virtual reality technology is used to break through the limitations of the traditional training room, so that each learner can freely choose the appropriate learning and training content through the computer at their own convenient time according to their own learning characteristics, and learn according to their own way and speed. This exploratory learning simulation training is conducive to stimulating the creative thinking of employees, enabling learners to acquire knowledge through active exploration in specific situations, and thus improving the motivation of learners. The virtual training environment greatly increases the training time and content, and reduces the actual training consumables and risks in the training link. Research group make a report and analysis for them to explain design of model and process of research based on necessary relating technology. [6-10]

2 Designing method of research

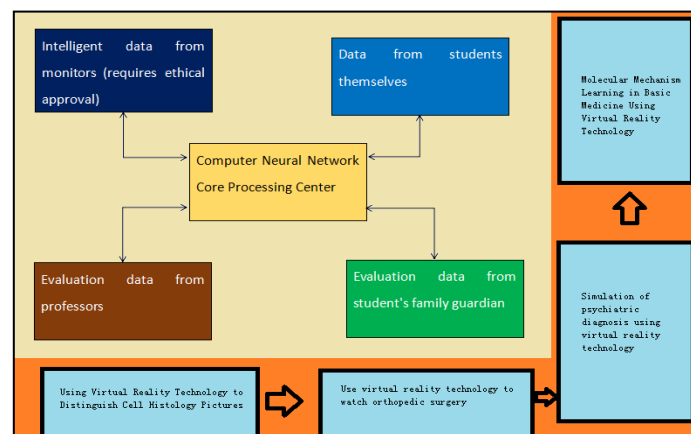


Figure 1 A computer model based on computer technology for psychology and The Idea of Using Virtual Reality Technology to Complete Work

As shown in Figure 1, the research team has designed this model, and its core contents are as follows:

1. Realize human-computer interaction through four ports. Through this way, data in all directions can be circulated, which can solve the data transmission path mechanism of the overall virtual reality technology.
2. In the learning task, we selected the contents including molecular mechanism, pathological diagnosis, surgical video and relevant medical key knowledge. Data shall be collected through information processing platform.

The above two parts of the mechanism are integrated, so that students can obtain the evaluation of relevant personnel and constantly put forward suggestions for optimization during their study. Of course, the student's guardian can select the score to view, while the score is usually given by the professor, and students need to submit the study information in the information system for teaching.

Pathology is a basic medical science that studies the cause, mechanism and development of human diseases, as well as the morphological structure, functional metabolic changes and pathological changes in the process of diseases. Pathology has always been regarded as a "bridge discipline" between basic medicine and clinical medicine, which fully demonstrates its irreplaceable important role in medicine,

Therefore, after the above system model mechanism is built, students can directly feel pathological changes through dynamic cell changes, and other abstract learning difficulties can be visualized as a processing platform of virtual reality technology. Diagnostics is a subject that uses basic medical theories, basic knowledge and basic skills to diagnose diseases. The main research content is to collect and obtain the methods and significance of medical history, symptoms and signs, experimental examination and instrument examination, and to analyze and summarize the clinical data and make a diagnosis through diagnostic thinking. This process is also relatively abstract. We can use virtual reality technology to let learners directly feel the pathological changes, which can promote learning efficiency.

As shown in Figure 2, according to educational psychology, we propose the algorithm core of this computer neural network model to solve the recommended task of learning content that students are most interested in.

We designed it as four types of personality in medical psychology in the four functional neurons of the first computing layer: active personality, happy personality, dull personality and impetuous personality.

At the second level, whether the final exam of surgery or internal medicine or psychiatry has reached 85 points is calculated.

At the third level, the content of calculation is whether the test score of biomedical engineering or medical physics reaches 70.

We need to provide the data of personality type at the input end, and provide their scores in various subjects. We can calculate which subjects will get high scores for people with different personalities through the algorithm, and verify the accuracy of the algorithm through sociological experiments. The purpose is to teach students in accordance with their aptitude

and improve the enthusiasm of the school.

Medical engineering is to cultivate talents for drug development, research, production quality assurance and supervision. The medical engineering is divided into the traditional Chinese medicine engineering and the western medicine engineering. The traditional Chinese medicine engineering is the treasure of China's excellent national cultural heritage and the spiritual wealth of all mankind. To learn medical engineering, you need to master the theory and knowledge of medical engineering, methods and technologies, as well as legal knowledge and the latest industry trends. It is a difficult medical specialty to learn. There is a lot of knowledge to memorize, as well as endless research and development. However, the employment rate of medical engineering graduates is very high, and there is a shortage of talents in this field in China.

Therefore, this algorithm model can assist students in learning specialized in secondary disciplines, and has a broad market.

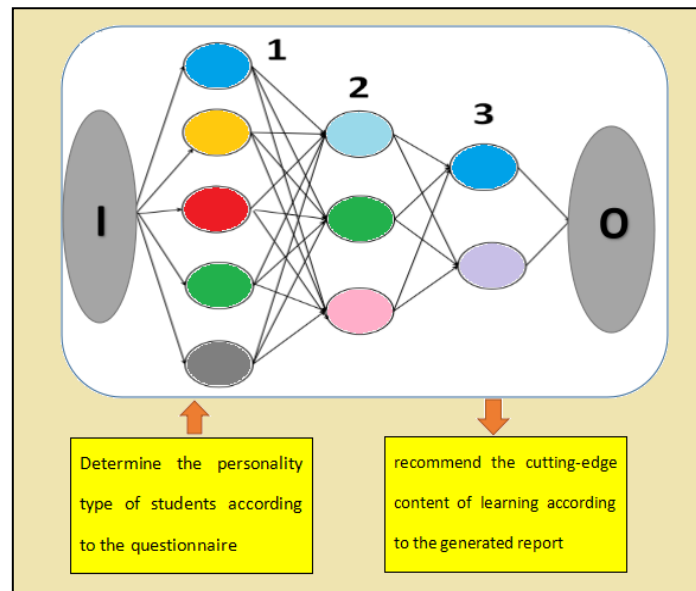


Figure2 A model based on neural noetwork about psychology of medicine

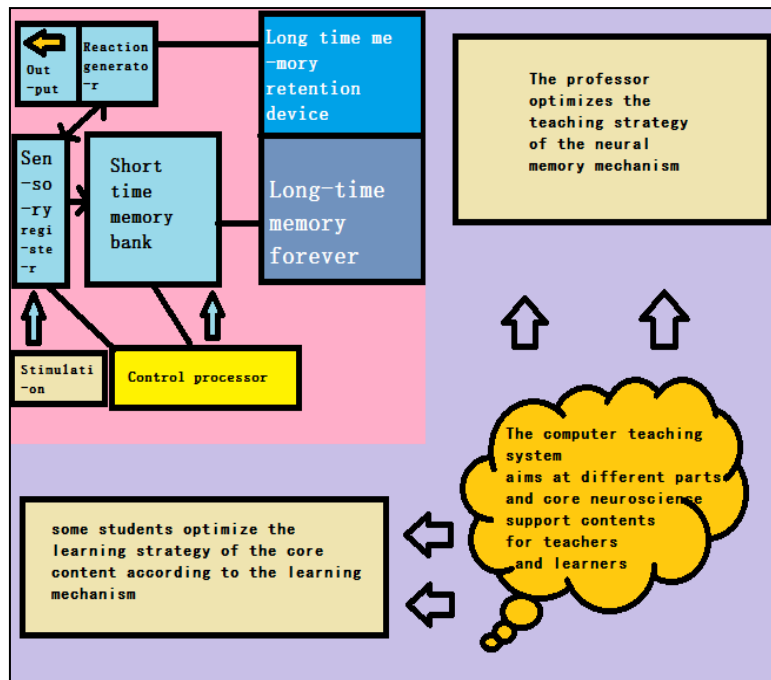


Figure3 A teaching model based on computer technology

As shown in Figure 3, we integrate the brain mechanism in neuropsychology into the model design of the computer teaching system, and its core content is to complete the functional adaptation of the memory memory card.

We use the computer as a medium to stimulate biological neurons to work in the human brain by constantly providing teaching content and constantly improving the concentration of neural threshold. The higher the synaptic concentration, the clearer and clearer the task of computer teaching.

Memory is divided into three basic links:

The first is memorization, that is, the process of recognizing and remembering things and accumulating knowledge and experience;

The second is to maintain, that is, to consolidate the acquired knowledge and experience;

The third is recall and recognition.

Remembering is the beginning of the memory process. It is the process of identifying and remembering things and forming a certain impression. Keeping is a strengthening process of memorizing content, so that it can become human experience better. Recall and recognition are two different forms of representation of past experience. The three links in the memory process are interrelated and mutually restricted. Remembering is the premise of keeping. Without keeping, there will be no recall and recognition, and recall and recognition are indicators to test the effect of remembering and keeping. Good memory can be exercised. For

example, many users of computer teaching software now want their children to have a good memory, so that their academic performance will also be good. Through these three steps of deepening memory, one's memory can be strengthened. For example, world-class memory masters can also develop super memory through training the day after tomorrow. In short, the strategy we propose is based on computer teaching engineering to solve the bottleneck of psychology in improving memory by taking cognitive neuroscience as the processing target.

As shown in Figure 4, we have proposed a supervisor supervised learning mode that integrates multiple data acquisition and multiple thinking in the computer engineering system. If "learning supervisors" want to move from "extensive" to "refined", they must put themselves in a correct position, move from "learning supervision" to "strengthening self-discipline", and provide more professional services. For example, instead of staying in the mechanical work of "waking up" and "pushing articles", we should strengthen the service level in "psychological counseling", and improve the self-discipline level of buyers by chatting to relieve boredom and providing methods. Let the buyers feel the real power of cheering. The key to solving the problem of rights and interests protection is to clarify the boundaries and make the service supervision itself mandatory. For example, seek a third party to comprehensively supervise the implementation of learning supervision services. The service contract shall be signed in advance and strictly implemented according to the contract, focusing on the buyer experience and turning to the supervisor service. Similar to legal consultants and psychological consultants, they generally ask for remuneration.

At the same time, providing learning supervision service must eliminate the unsafe factors in the service. Avoid excessive collection of the buyer's personal information, avoid the buyer from providing sensitive data such as mobile phone passwords and network accounts, avoid personal attacks in the service process, and prevent malicious people from taking advantage of the opportunity to infringe on the buyer's rights and interests. To build a learning society,

We need diversified ways to promote learning. Learning from the supervision thinking in the "study supervisor" service, applying it to other age groups other than college students, and applying it to other learning scenes except exam review, may promote the development of a learning society. Therefore, this role in the computer teaching project is highly profitable, and Figure 4 is the relevant supervisor.

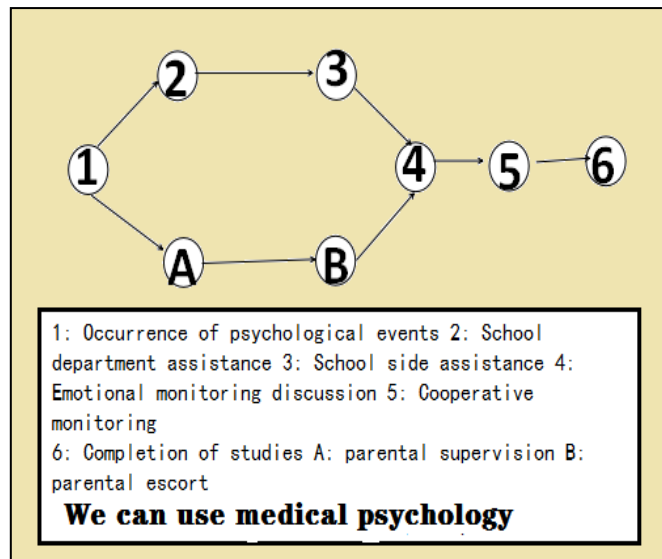


Figure4 A teaching model for psychology based on intelligent technology

As shown in Figure 5, it is the core lesson of the computer teaching project we designed on the micro level. In the overall flow chart, we put forward the learning methods and contents in detail, including surgical and medical endoscopy.

The advantages of VR are as follows:

For centuries, the main way for medical students or novice doctors to understand the human body structure is still through autopsy. Relatively speaking, it has not changed much. However, with the application of VR in the medical field, this situation has changed. We try to make medical students in their first year of courses learn about human body structure in advance through virtual reality as a training method. Anatomical knowledge is the basis of all medical knowledge, and VR virtual reality technology can enable medical students to more comprehensively understand the complex structure of human body. VR virtual reality technology is a good supplement to existing courses. In addition, he said that VR virtual reality is an exciting way for us to learn, because virtual reality helps students to enhance their understanding of body structure. For doctors, the more they understand the human body, the more successful their future career development will be. Although training from textbooks and actual anatomy is a very useful process, VR virtual reality teaching can enable students to understand knowledge through a new dimension. Students can remove each layer of skin from the skin, from the surface skin to the deepest bone. Virtual reality interface can enable them to better understand the interaction between muscles, organs, nerves and blood vessels. The emergence of VR virtual reality technology not only brings new blood to the entertainment industry, but also brings innovation to the medical field.

Now, many hospitals have started to try VR virtual reality technology, which is used in the training of novice doctors. And users can give full play to their imagination and flexibly master relevant skills and knowledge through the comprehensive perception of various information in the system. Using virtual reality technology to create a virtual laboratory is a

Test method: questionnaire survey; The questionnaire is as follows:

1. Have you known the mathematical methods of biological genetics?
2. Have you learned the knowledge related to mathematical modeling and virtual reality technology in medical research and development?
3. Have you learned about brain engineering supported by neuropsychology?
4. Have you learned computer software design knowledge in AI technology under the guidance of brain science?
5. Have you studied Suani medicine and chemotherapy?
6. Have you studied medical economics?
7. Have you learned any knowledge related to mathematical modeling, including clinical medicine?
8. Have you studied the data model and disease related knowledge of neurology?
9. Have you ever studied health economic strategy?
10. Have you studied public health strategies and artificial neural networks?

A knows very well B knows very well C. Not very well D knows a little

Number of participants: 100

Data analysis: As shown in the figure, we conducted a cross international special investigation on knowledge acquisition and research of intelligent technology under the guidance of computer medicine and virtual reality technology j throughout the experiment. We found in A-E that the penetration rate of relevant technologies in developing countries around the world is very low, and the degree of learning and mastering some relevant knowledge is very low. Therefore, it is very important to promote the existing cryptographic models, complete the task of social harm ethics, and solve the gap between applied mathematical modeling and computer technology. It is also necessary to design our teaching platform.

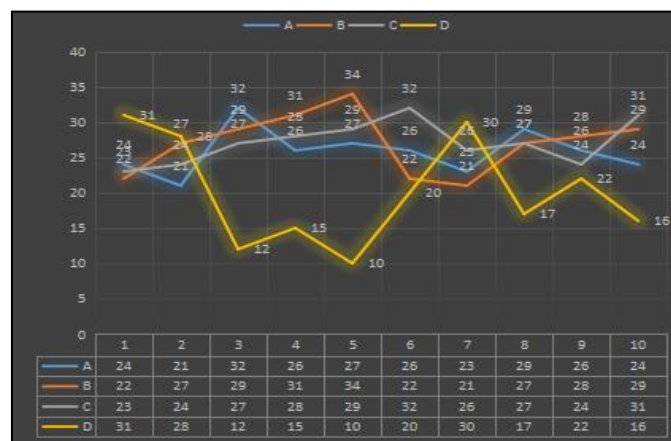


Figure 6 Data-analysis

4 Conclusion

Conclusion: The model designed by the research team can focus medical teaching on many difficulties in teaching engineering at the intersection of virtual reality technology. Therefore, the research team believes that the implementation of this system is necessary and feasible, which we believe is beneficial to them. It is worth popularizing and transforming achievements.

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