

Design and Research of Open Laboratory Teaching System Platform based on the Network Histoembryology

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Abstract: With the rapid development of Internet, Web technology, database technology further mature, to reform the traditional histology and embryology experiment teaching. According to the requirements of quality education, in order to strengthen the cultivation of innovation spirit and practice ability, make full use of network and multimedia technology to develop online opening experimental teaching application system, so as to realize the online teaching open in time and space.

Keywords: Network; Histoembryology; Open Experimental Teaching System

1. Introduction

Along with information technology more and more in-depth and extensive application in the management, the implementation of the open teaching system has gradually become mature in technology. Open teaching system is a continuous development new discipline, any one unit to survive and development, must efficiently organize the internal activity organically, and set up open teaching system that corresponding with their characteristics^[1].

And the histoembryology open experimental teaching system as kind of typical open teaching system, has a long history research and application. From the early use manual management to the computerized management, and then to today's network management and experienced constantly updated and development in technical, management ideas, and model.

2. The Main Characteristic of the Open Laboratory Teaching System Platform

The system is a online runtime system which combine experimental teaching management, laboratory equipment management, experimental teaching guide, online simulations and other functions as a strong unit. It is based on the teaching and research section of the lab homepage as platform, which includes an appointment with the query subsystem experiments, experimental design subsystems and online virtual experiments subsystem. The course related software will be linked to online resources, students can preview, simulation and online booking experimental time and experimental teachers on Internet, thus breaking the shackles of time and space. Experimental process monitoring, experimental results

and assignments submitted, performance feedback can be place on the web. Teaching programs scheduled for execution, the workload of teachers and authorized laboratory personnel and even students experiment results can share resources through the network.

Histoembryology open experimental teaching system, integrating the Department of Histoembryology embryology gallery, virtual labs, course syllabus and student exchange systems. It is an open experiment and practice platform faced to all school and other colleges and universities. Experimental teaching platform extend the scope of experiences from the laboratory to the operation of the Internet-based platform, realize overall management of the experimental operation of the project, laboratory personnel and experimental conditions. Teachers can remote operation to set up the experimental content. Construct open network experimental teaching system: the network technology provide strong technical support for the open laboratory. The whole system architecture is on the LAN and access to the campus network. Make full use of all kinds of network resources and play the software system function.

3. The Design Goal of Open Laboratory Teaching System Platform

Open laboratory mainly includes the following three aspects: goal: (1) Experimental time opening: From teaching time to spare time and gradually implemented to non-teaching hours, open all day. Depending on the different time period, list experimental projects and teachers, the students according to their own schedule to make an appointment and complete the experiment. (2) The content opening: teachers self-made experimental guidance,

break the traditional ideas, optimize and integrate the original experimental teaching material content. (3) Open experiment instrument: 1) Under the guidance of teachers, the teachers give the experiment principle and purpose, students themselves designed the experimental steps, and achieve the whole experiment process, finally achieve the result of the experiment and discuss the experimental results; 2) Use physical specimens, model learning: students under the guidance of teachers, oneself make biopsy specimen, so that can promote students' hands mental and physical ability. Not only can master histologic production knowledge but also can solve the problem of insufficient teaching specimens; 3) Use network resources for learning: Constructing a network environment teaching model of autonomous learning and open learning. Especially multimedia teaching, highly intuitive, and has the advantages of static and dynamic binding and audio-visual, which fully mobilize the enthusiasm of students, to create a relaxed learning atmosphere, easy to form a divergent thinking, and is contribute to the cultivation of students' innovative ability.

4. The Overall Structure and Function of the Open Laboratory Teaching System Platform

The system applications dynamic web ASP technology access, use Access as the background database, and IIS5.1act as WEB server. Connect to the database and the Web interface. And Web database technology to support the establishment of a B / S (Browser / Server, Browser / Server) structure of medical colleges open computer lab management system to meet the requirements of college teaching and administration. Users can login the system use two identities: Laboratory Management (managers); different logged by the system to grant different permissions. So that can improve the security of this system, to avoid irrelevant personnel access to the information in the purview. After login, users can modify own data, such as password changes, personal information changes. Shown in Figure 1.

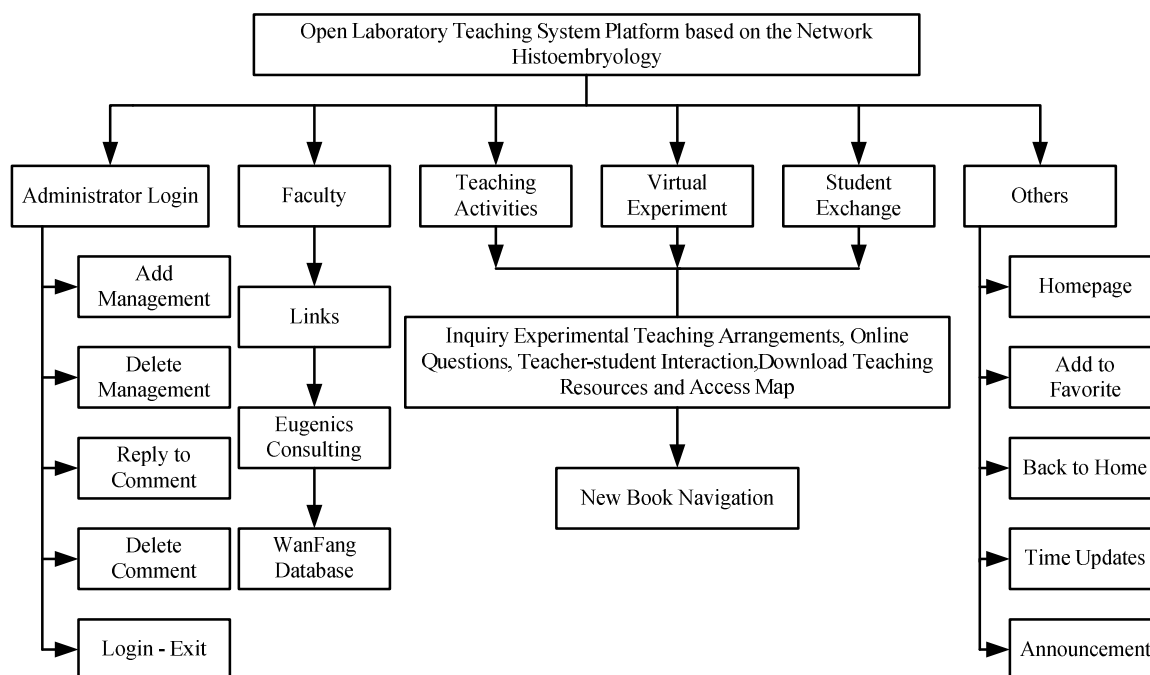


Figure 1. The Functional Module

Open experimental teaching system can add and delete administrator. After you login you can query the relevant open laboratory teaching arrangements, experimental content; teacher-student interactions, downloads embryology teaching resources and other functions.

- Connect to the DataBase (conn.asp)
- <%

- starttime=timer()
- data="book.mdb"
- Set db = Server.CreateObject("ADODB.Connection")
- connstr="Provider=Microsoft.Jet.OLEDB.4.0;Data Source=" & Server.MapPath("&data&")
- db.Open connstr

- %>[4]

5. The Test of Open Laboratory Teaching System Platform

First, test the inside of module, ensure that the module can operate normally. For example: database query, add, delete, and modify can be normal, in this process must consider many unusual circumstances, we start test the software when the process is complete.

Design and implement Web-based open experimental teaching management system in order to improve the organization and management efficiency of open experimental teaching. This study introduces a design thought of Web-based open experimental teaching management system, and ultimately implements this system, and through practice has proved that the system is stable and effective.

Since the system has a certain application, so there is a chance to run, of course, there are also post-maintenance, and during maintenance, we found some new problems in the test. So do a small arc changes in some places, further reduce the error rate of the system^[2].

Conclusion

In the initial stage of designing the system, I have encountered a lot of difficulties, but with the help of many teachers, the questions have got a better solution! In this I am grateful to teachers who help complete designing the system! In this issue of website design process, I feel even more benefit. Also deeply recognize that only focus on and strengthen the experimental teaching can stimulate student enthusiasm and interest in learning, thus cul-

tivate and improve students' analytical ability, creativity and practical ability.

Open laboratory management as a platform, train students about the experimental preparatory work, then guide self-designed experiments, and participate in research activities throughout the experimental teaching methods. Lead students start from the basic experiment, progressively and from simple to complex, exercise and develop students' practical ability. Practice has proved that this method can effectively use laboratory resources and fully mobilize students' enthusiasm. Practice also has a strong promoting role in improving students' basic knowledge, basic skills and basic skills, fostering innovation, and enhancing the overall quality. Establish experimental histoembryology teaching website has improved histoembryology network resources and associated resources collection and production. It can meet the actual needs and adapt to the requirements of network teaching of experimental histoembryology teaching. It is an important way to achieve teaching resources sharing and optimal allocation, but also an effective way to improve the effectiveness of teaching. The system will effectively extend the use of experimental time and space and improve equipment utilization, and promote the students' innovative consciousness and innovative ability.

References

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