

Construction of Basic Computer Practice Teaching Platform Based on Innovation Ability Cultivation

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Abstract—Innovative ability is an important manifestation of comprehensive quality, and the cultivation of high-quality innovative talents is an important task of talent cultivation in Colleges and universities. In this paper, the computer basic practice teaching is taken as a starting point, teachers should have the consciousness of constantly trying to reform through continuous innovation of teaching means for computer basic practice. In teaching, through the design concept of design-driven innovation, aiming at cultivating college students' innovative consciousness and ability, we integrate all aspects of teaching into design and innovation to build a scientific and effective practical teaching platform. In order to give full play to the role of computer basic practice teaching platform in teaching, this paper discusses the construction of computer basic practice teaching platform from aspects of platform construction ideas, relevant information technology, platform function modules and implementation.

Keywords—innovation capacity; computers; teaching platform; data base

I. INTRODUCTION

With the arrival of the information age, the importance of the innovative ability to master certain computer practices is also highlighted in society [1-3]. Through the design concept of design-driven innovation, every aspect of teaching will be integrated into design and innovation, and a scientific and effective teaching platform will be built to give full play to the role of the platform in teaching, so that computer basic practice teaching can be scientific, standardized, and efficient. So as to improve the college students' ability of practice and innovation.

II. THE CONSTRUCTION THINKING OF COMPUTER BASIC PRACTICE TEACHING PLATFORM

In the era of globalization, which is becoming more and more intense in modern education, big data and network information technology will provide an opportunity for the reform and innovation of computer basic practice teaching.

A. Teaching of basic computer practice in scientific positioning

In order to adapt to the needs of modern higher education and the development of school practice teaching reform, college teachers should have the consciousness of constantly trying to reform, and seek breakthroughs in the original traditional teaching concepts and explore the introduction of new ideas through continuous innovation of computer basic practical teaching methods. In terms of teaching content design

and teaching means innovation, with the goal of improving students' innovative consciousness and innovation ability, by strengthening the design and innovation of computer basic practice teaching, that is, on the basis of the original teaching methods, Constructing the information network teaching platform will improve the traditional teaching methods effectively. By realizing the informatization of computer basic practice teaching, the students' ability of practice and innovation is improved.

In the course of computer basic practice teaching, with the continuous deepening of teacher teaching reform, the practice needs of students will continue to increase and improve, and new functional modules and teaching practice cases will be gradually developed and added on the teaching platform to meet teaching needs [4]. Design driven innovation is realized. Through the unified information teaching platform to realize the computer basic practice class informatization, correct use of information technology, effective coordination of resources, the maximum effectiveness of computer practice teaching.

B. Technical Support for Practical Teaching Platform

In the reform of computer basic practice teaching, it is necessary to design and implement the computer basic practice teaching platform by using the network teaching environment to improve students' computer basic practice ability. At present, the campus network infrastructure construction provides a guarantee for the teaching information method. With the rapid development of the digital campus construction in various universities, various business and teaching systems, including the computer basic practice class system, will be highly integrated, and the systems will achieve organic integration. Through unified identity authentication and unified portal display, communication, management and service informatization are finally realized.

All along, many colleges and universities attach great importance to the training of the basic computer practice ability of college students. While entering the society, college students can not only use computer technology flexibly, but also have a certain sense of innovation and innovation ability to adapt to the needs of information technology innovation talents in today's society. With the advantages of traditional teaching and network teaching, the new teaching idea and new teaching method are also the key points of computer basic practice teaching in colleges and universities [5-6].

III. CONSTRUCTION of Computer Basic Practice Teaching Platform

Information technology has provided good technical support for platform construction. In order to improve students' innovation ability and computer practice ability, the corresponding information technology is used to design a relatively scientific, standardized and efficient online teaching platform.

A. To master relevant information technology

Informatization technology is based on modern computer technology, database technology, and network technology. It integrates the various resource elements of management into the database, and combines the work, management, and auxiliary decision-making of different personnel. The application of information technology can bring into full play the intelligent potential and material resource potential of teaching and administrative personnel, and information resources are highly shared, so as to achieve the ideal state that information application tends to be rationalized.

Mastering certain information technology to carry on the computer basic practice teaching, can provide the basic guarantee for the innovation informatization to exert the practical benefit. Informatization technology mainly has two preconditions. One is to realize informatization of computer hardware and network facilities, and the other is to realize informatization of software technology such as database technology.

1) Hardware and Network Facilities Informatization

Hardware and network facilities are the basis. Although the degree of networking in many universities can basically meet the coverage of the entire school, the demand for network applications in the big data era will require higher hardware. Informatization management is a high degree of integration of data, which requires a good server and a huge amount of data storage space, so that in the future, information resources can be better shared through the network. In recent years, the seamless coverage of computer network, especially wireless network, has formed a huge wave in universities, which has greatly improved the practical utility of information management.

2) Software Technology Informatization

Under the mode of information management, the standardization of data is required to achieve a high degree of data sharing through technical means. Computer basic practice teaching to realize information management mode should pay attention to the construction of teaching management work and experimental teaching database. This requires developers to select database products and technologies suitable for the school and apply them to normative applications through technical means. Efforts are made to standardize the management of information data such as these teaching resources.

B. Raising the level of personnel informatization

The educational background, business quality, management ability, and work enthusiasm of college teaching and management personnel are very different, and the teaching quality varies greatly due to different teaching levels. Computer basic practice teaching to realize the information teaching management method requires teaching and management personnel to master basic computer, network and database technology, have certain professional quality and master new technology skills. Combining multiple reasons and improving the level of personnel informatization, there are two ways to solve the problem:

1) Improving the system of personnel training and advanced training

Personnel is the main body of daily teaching management, and their business ability and technical level will directly affect the quality and level of teaching management. It is necessary to strengthen the relevant personnel training, especially the teaching means to integrate information technology and other information technology training. Only the personnel informatization level is continuously enriched, can better adapt to and be competent for the job, can have innovation in the teaching management of the job, can better promote student innovation.

2) Improving Teaching Incentives Policy and System

To improve the comprehensive quality of personnel and the level of information technology teaching, management and scientific research, it is necessary for the university management departments to formulate relevant incentive policies and systems to mobilize the enthusiasm of personnel information technology scientific research. We will actively encourage and guide personnel to strengthen informatization research in teaching and management in order to improve personnel's business ability and informatization.

C. Building an Informatization Teaching Platform

The information teaching platform is based on computer information technology, database and network technology, and is a network system oriented to the training of application-oriented practical innovation talents. In view of the problems or disadvantages of the traditional teaching methods of a large number of courses, the auxiliary teaching function of the teaching platform designed to improve students' practical ability and innovation ability is very significant. Under the guidance of teachers, students use multimedia computers and mobile devices as media to visit the teaching platform anytime, anywhere, and drive students to learn independently according to the tasks, projects, and cases of the platform. Students can not only obtain applied knowledge and practical cases in the network platform, but also carry out comprehensive learning of interactive learning. This promotes the effectiveness of computer basic practice teaching and is more scientific, standardized, and efficient.

1) Computer Basic Practice Teaching Platform Function

The computer basic practice teaching platform is divided into two parts: teacher and student. Teachers mainly complete the functions of building learning courses, uploading learning content, releasing learning tasks, testing learning results, and

participating in teacher-student interactive learning. Students can use the online teaching platform to learn, collaborate, complete learning tasks, and communicate and discuss with teachers and students.

2) *Module Design of Computer Basic Practice Teaching Platform*

In order to meet the different needs of students' different computer practice ability and different levels of computer practice innovation ability, the computer basic practice teaching platform should reflect the progressive hierarchical structure. That is to follow the law of practice teaching from shallow to profound, from easy to complex, from single to comprehensive, and gradually cultivate students' computer practice and innovation ability. The practical teaching platform mainly includes four modules: computer basic skills practice, professional skills practice, comprehensive skills practice and scientific research and innovation practice.

3) *Database Design of Computer Basic Practice Teaching Platform*

The platform is a web-based access database system. According to the requirements of the application, the database system will have a large amount of data storage, interaction and forwarding. It has high performance requirements and security mechanism requirements for the database server. The design of the database includes three stages: design, implementation and maintenance.

The first stage is the design stage, which mainly aims at the business model design of the system, including the design of the database operating environment and the interface operating environment. The database structure design is the basic design of the data table and the planning of the operating environment. The basic design of the data table follows the basic principles of database design, including data synchronization, minimizing redundancy, and primary and foreign key constraints on its completeness and accuracy.

The second stage is the implementation stage. It mainly focuses on the infrastructure design of the database, including the design of database program development for data table construction. According to the functional design of the platform and the division of modules, The design lists the following major data information tables: user information sheet, course information sheet, course video information sheet, courseware resource information sheet, practice case information sheet, test paper information sheet, job information sheet, release information category chart and release dynamic information sheet. Each data table in the database is generally related, not independent, and a good association is established to ensure the consistency and integrity of the information in the database.

The third stage is the maintenance phase, which mainly focuses on the maintenance of the integrity, accuracy and security of the database data in the previous two phases. The platform has relatively high requirements for database system maintenance. Database maintenance mainly includes security and database optimization.

4) *Realization of Computer Basic Practice Teaching Platform*

The computer basic practice teaching platform adopts a B/S structure, IE, a server and browser structure. It mainly consists of a website server, a browser, and a database server. It integrates computer network technology, database technology, and web page design technology.

Using the B/S structure, the platform surpasses time and space constraints. Users only need to access the website server and database through the browser, and can perform flexible things processing and data processing to achieve a greater degree of information sharing.

IV. CONCLUSION

With the development of information technology, educational technology is constantly innovating, providing more possibilities for teachers and students to have a better learning environment. The construction and application of the computer basic practice teaching platform for exploring the cultivation of innovative ability has reference or guiding significance for the connotation and teaching method innovation of its practical teaching. It is an in-depth exploration and practice for computer basic practice teaching in universities. The construction of a practical teaching platform based on innovation ability cultivation provides college students with an atmosphere of innovation education, provides a space for exploration with a relatively high degree of freedom of practice ability, and effectively enhances college students' innovation awareness, innovation ability and practical ability.

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