Network Teaching Curriculum Design for Basic Computer Application Based on the Working Process Systematization

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Abstract: Through the study and research of online courses, combining the course with characteristics of basic computer application, the paper proposes a network teaching mode curriculum reform program of computer application in higher vocational colleges based on theoretical analysis, investigation and study, comparative analysis and other methods. Simultaneously, this paper aims to activate classroom teaching both inside and outside the classroom, cultivate students' interest in learning and improve the ability of computer practice.

1. Introduction

With the acceleration of education internationalization, vocational education in China is evolving from quantity expansion to quality improvement[1]. Basic Computer Application is the first computer course for all freshmen in higher vocational colleges, which mainly cultivates students' basic knowledge of computer and the skills of using modern office software[2]. It is a basic course for learning other computer courses and the other specialized courses[3]. By expanding the content of classroom teaching to online platform, the teaching resources are organically integrated. Taking the employment posts and vocational skills as the foundation, this paper uses the brand-new concept of the students-oriented curriculum construction of vocational education to develop systematized online courses based on the development and design of online courses systematization, so as to fully explore the potential of students, develop students' practical ability, improve their vocational skills and employment competitiveness.



Fig.1 Curriculum Framework of "Basic Computer Application"

2. The Origin of the Course

On the basis of a wide range of social and commercial investigation, we set the objectives of

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training for professionals; By dividing the duties of employees, we determined the special capacity suitable for each professional post and translate special ability into teaching modules (teaching units); we formed a "basic computer application" course by combining computer operating system with related teaching modules together. As shown in the figure 1.

3. Online Teaching Platform Design

3.1 Build up Job Skills Teaching Structure Based on Ceac Platform

CEAC self-learning platform, the so called National Computerized Certification Center for Computerization of Education, uses modern educational technology and tools to provide a unified teaching resource and to standardize the teaching process so as to help students grasp the knowledge and skill effectively and quickly. Due to the unbalanced development of the regional economy in our country, the development of education also differs in different regions, resulting in the uneven level of the students' computers skills. Under this circumstance, the teaching mode with the same starting point and the same teaching progress can not satisfy the needs of students at different levels if the professional class is taken as a whole teaching unit. This will inevitably lead to an unsatisfactory teaching result or even a decline in students' enthusiasm for learning. To this end, basic computer culture course no longer follow the previous teaching mode, instead it starts to use CEAC network autonomous learning platform. Process monitoring includes learning monitoring, practice monitoring, counseling and answering questions. When a student encounters a problem in the learning process, teachers can tutor him via the monitoring platform immediately. At the same time, teaching resources, including a variety of teaching resources and software, such as handouts, multimedia courseware, experimental guide books, material library, BBS question forums can be shared on the platform. The different-leveled information can guide students to take what they need and improve themselves gradually.

The login Interface of CEAC self-learning platform is shown in the figure 2.



Fig.2 The Login Interface of Ceac Self-Learning Platform

With advanced application simulation technology, this paper develops a variety of post business scene simulation environment and equips the cloud platform with courseware resources. To solve the network teaching mode, the simple course presentation will be converted to online form of operation, to guide students through practical operation and help them master these job skills. And training resources can also serve the community curriculum.

Structure of CEAC corporate job skills teaching platform is shown in the figure 3.



Fig.3 Structure of Ceac Corporate Job Skills Teaching Platform

3.2 Development Process of Online Course Teaching Resources

The teaching resources of the network course are divided into two parts. The first part is the online teaching resource library, and the other part is the main resource base of the offline teaching. Online teaching resource library focuses on students' autonomous learning support, and main resource base of the offline teaching mainly controls the overall trend from the curriculum, and lead learners to use the correct course of study. Although the contents of teaching resources are different, the development process is basically the same. Development process of online course teaching resources is shown in the figure 4.



Fig.4 Development Process of Online Course Teaching Resources

The online curriculum resources development process is divided into the following four steps, the first stage is the integration of the specific needs in practical applications. The second stage is the demand for the preparation of appropriate operating examples. The third stage is the programlike decomposition of actual operation which suits the students' cognitive thinking processes, dividing a comprehensive project into a simple independent task. The last is to build a good environment test according to the test results, further revise and improve the content of resources. As shown in the figure 5.

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|----|-------------------------------|--------|------|--------|----------|------------|------------|----------|----------------|--------------|---------|-------------|
| | A | Б | C | D | E : | ¥. | G | н | 1 | 3 | К | L |
| | The examination results table | | | | | | | | | | | |
| | Student Id | Class | Mama | Gandar | subjects | | | | | Watel comme | Attamoa | Freehenders |
| | | Class | Name | Gender | Typing | Windows XP | Excel 2010 | Internet | PPT production | I otal score | Average | Evaluation |
| | 117071 | 12 | Ane | Male | 66 | 91 | 69.6 | 76 | 76 | | | |
| | 117072 | 13 | Juo | Male | 86 | 76 | 72.4 | 85 | 73 | | | |
| | 117073 | 12 | Dvv | Male | 91 | 85 | 66 | 76 | 69.4 | | | |
| | 117074 | 13 | Tgg | Male | 76 | 76 | 86 | 68 | 65.8 | | | |
| | 117075 | 12 | Ali | Female | 85 | 73 | 91 | 76 | 62.2 | | | |
| | 117076 | 13 | Toby | Female | 76 | 69.4 | 76 | 71.1 | 58.84 | | | |
| | 117077 | 12 | Ger | Female | 68 | 65.8 | 85 | 69.4 | 55.36 | | | |
| | 117078 | 13 | Wzz | Female | 76 | 62.2 | 89.2 | 67.7 | 51.88 | | | |
| 2 | | | | | | | | | | | | |
| 81 | | | | | | | | | | | | |

Fig.5 Student Achievement Table

The third stage is to decompose the operation cases into a reasonable project which accords with the cognitive thinking of students, so that a comprehensive project can be transformed into many relatively independent but related simple tasks. We decompose the learning resources of open courses into relatively independent and small modules, making it easier for learners to learn, and gradually grasp knowledge and skills. It is necessary for the learners to focus on self-study.

In the fourth stage, we choose some learners to try out teaching resources, and we will observe, record learners' usage and final effect, and investigate their opinions and suggestions on learning resources. We can make pertinent modification and improvement of curriculum resources by collecting these information.

3.3 Structure Design of Resource Base

We choose six kinds of resources, namely media material database and courseware, lesson plans, documents and resources directory, as the main content of the resource library construction. Combining the characteristics and specialty setting of science with education curriculum, referring to the general teaching resource library model, this paper also designs a management and distribution system of online teaching resource library based on Basic Computer Application. There are 9 main modules in the resource repository, which are literature database, video library, picture library, courseware library, question bank, lesson plan database, lecture draft, special topic research, forum community and so on. Their relationship is shown in Figure 6.



Fig.6 Management and Distribution System of Online Teaching Resource Library Based on Basic Computer Application.

3.4 Function Design of Resource Library

The three roles in the online teaching resource library system are accordingly referred to as: system administrators, teachers, students in some subsystems (such as: online lesson preparation system). The relationship between these three user roles and the functional rights they have is shown in Figure 7.



Fig.7 The Relationship between These Three User Roles and the Functional Rights.

4. Conclusion

This article mainly studies the online teaching platform of basic computer application courses in higher vocational colleges. By analyzing the problems encountered by the current higher vocational colleges in basic computer application, and the fact that textbook knowledge cannot satisfy the needs of current social development, we find it necessary to conform to the trend of Internet development, make rational use of online resources and establish a online teaching platform. Based on the theory of subject education, this paper takes the study of computer application as an example, uses online learning platform to build the online curriculum resource base, discusses the application effect in practice teaching and seeks suitable teaching mode and method of common course of basic computer application, so as to improve students' learning effect and learning ability. However, subject to the constraints of time, teaching conditions and other factors, the online teaching mode of computer application basic course needs to be further improved.

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References

[1] LI Zheng. The Transformation of Value and System: the SoftEnvironment of Chinese Vocational Education in 2030. Modern Education Management, 2017,32(5).6-20.

[2] JIANG Dayuan. The world professional education curriculum reform the basic trends and enlightenment. China's vocational education, 2008, 27(6).7-13.

[3] WU Quan, YAN Zhiyong. The working process of the connotation and characteristics of systematic curriculum development paradigm. China's vocational and technical education, 2017,(15).57-64.