

The Research on the Courses Learning Platform's Design and Implementation of Computer Fundamentals Based On Moodle and LAMP Technology

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Abstract. The computer fundamental courses mainly aimed at the training of basic computer knowledge and technology for the entrants in the university. For the lack of interrelated courses' learning platform, the courses teaching method remains still in the traditional face-to-face form. In order to meet the teaching requirements of the fundamental courses under the Present financial condition, this paper selected Moodle platform as the basis for building curriculum teaching platform. Moodle is an open-source learning platform based on the constructivism, .Many useful functions of Moodle can be used to build a low-cost, high-efficiency virtual leaning environment. Meanwhile in the test system for Moodle module, there are some deficiencies, using LAMP technology to design and develop the test system. Based on this, this paper study courses learning platform's design and implementation of computer fundamentals based on Moodle and LAMP technology. This paper introduces the Moodle technology-related knowledge, then introduce basic computer course design platform based on Moodle teaching techniques, and then introduce the development to the test system based on LAMP technology. At last, this paper studies courses learning platform's implementation of computer fundamentals based on Moodle and LAMP technology.

Introduction

In the information society, people, especially college students have a gradually increasing computer technical requirements, to enable them to better adapt to the requirements of society and cope with daily learning and working needs. So, many colleges and universities offer a basic computer course. Although today has better hardware facilities, but due to lack of appropriate teaching aids platform, most of the classroom still remain in the traditional face to face format. Equipment utilization is low and does not fully reflect the advantages of hardware environment; at the same time, due to a lack of suitable secondary education platform, students after school is difficult to learn and exchange E-learning. Based on this, In order to meet the teaching requirements of the fundamental courses under the Present financial condition, this paper selected Moodle ^[1]platform as the basis for building curriculum teaching platform. Meanwhile in the test system for Moodle module, there are some deficiencies, using LAMP technology to design and develop the test system. Based on this, this paper study courses learning platform's design and implementation of computer fundamentals based on Moodle and LAMP technology. Hope from the discussion, that we can provide reference to the research personnel.

Moodle relevant Overview

Moodle Introduction. Moodle^[2] is an Australian teacher Martin Dougiamas developed course management system based on constructivist educational theory, and it is a free open-source software. It has been widely used in Asia.

The word Moodle is the short of Modular Object-Oriented Dynamic Learning Environment, namely modular object-oriented dynamic abbreviation learning environment. It is a software package used to build Internet-based courses and web sites. Moodle platform based on social

constructivist teaching ideas, namely educators (teacher) and learners (students) are equal subject in the teaching activities, they collaborate with each other, based on their existing experience and co-construction of knowledge.

Moodle system installation settings. In Moodle system, with the identity of the manager of the landing set good teacher, syllabus, teacher and student users to add, so that students can choose courses and teachers.

Resource Data section design. According to the needs of students can learn the information section of the import in. You can use TXT, PPT, WORD format.

Design a video library. Mainly because some workable some videos, deepen familiar with the use and understanding of students on it.

Remote Communication Design. You can add an AC design activities in the learning unit. Teachers can choose activities according to the needs and characteristics of teaching content. Some theories of activities can be used to create other forms of community WIKI allow members to modify, organize knowledge collected. In addition, Tencent QQ is very popular today, can provide a platform for the exchange by the QQ group QQ group and forum comes to students. Teachers also can answer in time for students, students can discuss the answer to each other,

Assessment of the design. Teachers can be arranged according to the contents of each chapter in Moodle system related tasks, test questions, etc. These can be the actual situation of the students to be a general understanding, and collected the students basic computer knowledge to grasp the situation.

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Teaching design platform based on Moodle platform. In line with the actual needs of teachers and students in order to create a computer platform based on Moodle Cours^{e[3]} on teaching these courses must first be understood and analyzed. It is also in the process of blended learning teaching curriculum import aspect of the work lies. It is the initial stage of the Course, the main course of a clear teaching objectives, content settings, teachers and students, as well as appraisal methods and so on. The following analysis of this part of the teaching process of teaching platform to build and deploy blended learning theory to guide the design has a guiding role.

After the analysis is complete selection, installation and course platform, to be the appropriate course in instructional design based on Moodle, Moodle needs to be built on the deployment of a variety of teaching programs and functions to conduct a comprehensive study. Moodle teaching function module is divided into three functional modules Group: System Administrator site management group, teaching activities and teaching resources function group function group.

Teaching function Moodle platform can provide a greater amount of modules used to assist teaching and learning activities, and the provision of teaching resources. How effective curriculum using Moodle powerful platform to design the required curriculum teaching platform assist students to learn, so that in case of a hardware basis with the traditional classroom and non-classroom teaching behavior E-learning way organic integration, and applied to the above teaching, it is a problem worthy of study. This selection of blended teaching model as a guide.

Blended learning is an organic integration of face to face classroom teaching and digital teaching. Blended learning makes teaching concepts and teaching mode change, makes role and capacity as well as the role of student teachers have changed. The purpose of blended learning is the integration advantages of teaching and network teaching in the classroom. Blended learning using Collective teaching form mainly based on teacher taught, team-based forms of teaching "cooperative" concept, self-learning-based teaching. Blended learning teaching process includes introducing courses, event organization, learning support and teaching evaluation four links.

In blended learning, "blended" refers to a mixture of learning theory, a mixture of learning resources, a mixture of learning environment, a mixture of learning styles. Blended learning teaching process is primarily a combination advantages of traditional classroom teaching and E-learning teaching, is to achieve a certain teaching objectives, and based on space-time

environment in which teachers and students, the learners effectively organized activities a teaching process. The four key aspects of blended learning teaching process is shown as Figure 1 :

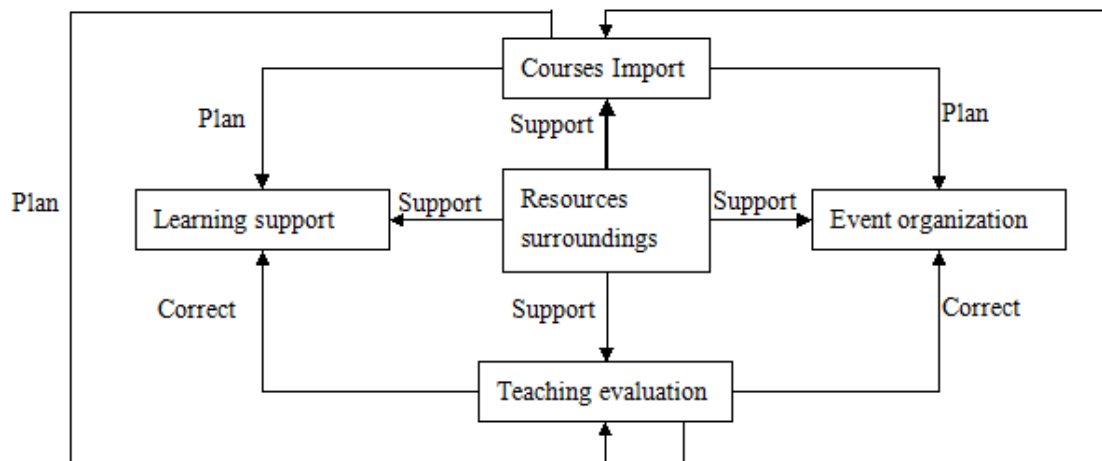


Fig.1 The four key aspects of blended learning teaching process

From Fig.1, we can know that blended learning is similar traditional classroom teaching. It consists of four different key teaching composition, namely the curriculum import, event organization, learning support and teaching evaluation.

The development of test system based on LAMP technology. LAMP^[4] is a combination of a set of open source software to build dynamic Web server. Although they are independent of the program itself, but because of the often used together, compatibility degree gradually increase, together form a powerful WEB application platform. The software development projects in software investment costs low.

Test system is an important part of teaching activities, can help students in interactive teaching curriculum teaching, let teachers understand the students construct knowledge, and after the teaching of the course, help students to better consolidate the knowledge, review what they learn, reflect also blended learning theories behaviorism theory.

On the basis of demand analysis, the system will be set by the user into three categories: students, teachers and system administrators, consistent with Moodle platform user classification. According to the demand analysis system for each service provided by the user and get the system case diagram.

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System implementation. In the data processing logic layer, first to design a database foundation operating DBSQL class, connect to the database, while taking advantage of the function of PHP MYSQL function design systems to use direct manipulation of the database, the received parameters are SQL statements, the return specified Information. Next, in the data processing logic section, the design of each functional module used in the classes, each class inherits basic database operations, design the appropriate data handler, the form submitted by receiving transaction processing logic layer parameters such as preparation of the corresponding SQL statement calls basic database query functions of the underlying operating DBSQL class, will return the transaction result page, the data page will be followed by the transaction is processed, converted to the corresponding HTML code that is sent to the client to display on the floor.

Student Reception practice realization of the page. First, according to the teachers in the background Exercises pumping amount set each chapter title, and in the form of a random test paper out of order to generate a list of topics for students to practice. System in the student clicks "Submit correcting" button immediately after the results of the feedback given to students to practice.

Conclusion

Moodle platform relative to the practice exam modules, the current exam system is mainly from four aspects of the improvements: easy subject import capabilities to support the Integrated random volume, easy operation, improving system flexibility. The system has been applied to teaching activities. Through actual use, teachers generally reflect the simple, fully functional and practical, but can be more convenient to have the title will have to import the item bank, a substantial savings in time costs. Student use of the system experience of feeling better, and can be integrated through a comprehensive review exercise, improve the learning effect.

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