

Design and Implementation of Moodle Teaching Platform based on Hybrid Teaching Mode

Heng Wang^a, Xinrui Chen

School of Electronics and Information Engineering, Jingchu University of Technology, Jingmen 448000, China

^awanghengwh@126.com

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Abstract: On the basis of designing education model, this paper puts forward a hybrid teaching mode combined with Moodle, a popular design platform. This paper expounds the internal relationship of the mixed teaching mode. According to the teaching mode of education, the principle of Moodle design is put forward, and the design process of Moodle network course is analyzed. It is hoped that it will be helpful to the design of Moodle network course. It provides a good starting point for educational teachers to carry out in-depth research. Based on the learning theory of social constructivism, this paper independently takes charge of the design and realization of the whole network teaching system by means of Moodle, SCORM and other technical means.

1. Introduction

Modern information technology seems omnipotent; the crux of the problem is demand and application. The process of educational normalization in National Open University is the process of making clear the practical demands of education and teaching and realizing the two-way integration of technology and education seamless integration and deep integration by means of modern information technology. The course system construction of distance and open education is an innovative process, and curriculum design and development is an important content of curriculum system construction. This position requires teachers to be able to adopt new types of Design tools and advanced teaching ideas for curriculum design and development, constantly promote the process of education information. The teaching mode of distance and open education is a typical hybrid-teaching mode. Hybrid learning is not a simple addition of classroom learning and online learning, but a combination of the advantages of classroom learning and digital or networked learning. Moodle, with its advanced design concept, powerful function and flexibility of realization, becomes the preferred curriculum design platform for hybrid learning mode.

2. Brief introduction to Moodle

Moodle (Modular Object-Oriented Development Learning Environment) originally designed, managed and implemented by Australian teacher Dr. Martin. Digammas based on social constructivism learning theory in an information environment The curriculum management system and the learning management system, developed to evaluate their own curriculum and teaching, are free and open source software that has been promoted in 175 countries and regions And applications that support 75 languages.

3. System functional Framework of Moodle

Because the PHP scripting language is adopted as the basis of development, from the programming framework of Moodle system, it conforms to the popular three-tier Browse/Server structure, that is, the separation of data access, user interface and business logic. At the same time, the overall framework of object-oriented method and modular thinking design used, which is excellent in flexibility and extensibility. The core operating system and database management

system is the bottom layer of Moodle system structure. The function is to support the long-term stable operation of the Moodle platform, while the resource management is mainly negative. Some explicit or implicit plugins in the platform are managed by the administrator, and some of them can be displayed, such as forums, surveys, tests and so on, which can be selected through the learning activities and learning needs of teachers and students. Finally, the platform system has a high affinity; ordinary users can browse the Moodle platform by using IE browser, and launch a series of data retrieval and application activities.

4. Design process Analysis of Hybrid learning pattern based on Moodle platform

To design a hybrid learning teaching model based on Moodle technology platform, we should be good at making use of the characteristics of multi-module, multi-function and strong adaptability of Moodle platform to realize the optimization of teaching efficiency.

4.1 Analysis of learners.

The design of hybrid learning teaching model based on Moodle technology platform mainly takes learners and their learning activities as the main body, hoping to reflect their different knowledge level and cognitive structure, and it can be reflected in the process of learning and teaching. Teachers will focus on the following three aspects of learners to lay the foundation for the design of teaching patterns.

4.2 An analysis of learners' psychological and social characteristics.

This involves the learner's age, intelligence, thinking, cognitive ability, self-awareness, interpersonal analysis, and so on. According to the learning conditions of the learners at different stages, the psychological characteristics designed to match the appropriate knowledge expression for them, to promote the learners' learning effect.

4.3 Analysis of learners' knowledge and skills.

The premise of designing hybrid learning teaching model based on Moodle technology platform based on the learners' knowledge and skills. All of these displayed with data information, in which the performance and achievement of students in the past learning process counted. After understanding the students' basic learning situation, we can set up the teaching starting point for the teaching mode, and set up the scientific class hour's proportion according to their knowledge acceptance degree.

4.4 The analysis of learners' learning motivation.

Learning motivation dominates learner behavior, which is the core idea of designing hybrid learning teaching model based on Moodle technology platform. Through the function of Moodle platform, it can stimulate students' subjective initiative, such as setting up learning goals, excavating students' internal and external motivations in the process of learning, which has an obvious promoting effect on learners' mastery of knowledge and skills.

4.5 Selection of learning resources.

Because of the design of hybrid learning teaching model based on Moodle technology platform, the selection of learning resources includes the content of traditional textbooks and all kinds of web page text, picture and video materials provided by Moodle platform. In the process of resource selection, different information resources can be used to present the teaching content according to the teaching objectives, to achieve the benign complementarity of knowledge system, and to promote the students' knowledge cognition ability in the teaching process. In the process of teaching, teachers can also choose and launch new teaching resources at any time.

4.6 Design of learning activities.

This link is the most important link in the design of hybrid learning teaching model based on

Moodle technology platform. Strictly speaking, teachers should design corresponding teaching activities for each knowledge point. Only in this way can we effectively promote the students' deep mastery of the knowledge and skills they have learned. Specifically, according to the characteristics of Moodle platform, we should first design the learning activities as guided by the teaching content, and then establish the problem discussion and cooperative learning labels for the imported content, to increase the activity of classroom teaching. Here, the teacher can add learning content, and then in the problem discussion and collaborative learning phase the emphasis and difficulty of teaching content introduced to deepen the students' understanding of what they have learned. In order to strengthen students' understanding of knowledge and realize systematic internalization of theoretical knowledge, cooperative learning and after-class discussion can be carried out by means of "discussion zone" and "group discussion" of Moodle platform. The training of knowledge and skills is an after-class exercise module of students on Moodle platform, which can help students to review and finish their homework, supervise the situation of students' review and homework completion, and understand the students' learning in a timely manner.

4.7 Teaching evaluation design.

The teaching evaluation in the mixed learning model is mainly divided into learning effect evaluation and teaching design usage evaluation. The purpose of evaluation is to realize the summary and reflection of the whole process of learning and to recognize the advantages and disadvantages of teaching design content. Using the modules of homework, test and seminar in Moodle platform, the diversity of evaluation mode also stimulates students' initiative in learning.

5. Design and Application case study of Hybrid Teaching Mode of basic course based on Moodle platform

Taking the hybrid basic course based on Moodle platform as an example, this paper mainly expounds from four aspects: course introduction, learning activity organization, learning support and teaching evaluation.

Basic teaching of basic courses. The basic course is mainly aimed at the first year major students, and it is the basic theory course. In order to promote the design of technology platform based on Moodle? The traditional classroom teaching and network teaching adopted to encourage students to carry out learning activities through individual autonomous learning and teamwork.

The introduction of curriculum content is mainly divided into four aspects. The cultivation of information consciousness. Freshmen have just entered the university, so we should first train students to have a strong sense of information so that they can understand the basic knowledge of the network and learn the basic methods of acquiring, transmitting, processing and applying information. Then cultivate their correct scientific attitude and careful logical thinking ability. Master the point of knowledge. Before the basic teaching, we should first understand the students' personality characteristics, which is convenient to teach students according to their aptitude. Hybrid learning simulation emphasizes the interaction between theoretical and practical learning.

6. LDAP server erection

Download the necessary packages and support, ldap windows installation package; ldap browser test software; install LDAP, by default. Configure LDAP, to delete files in the data/ directory and create domain.ldif. The contents are as follows:

```
,
dn: dc=xgx, dc=jsafc.net.cn
objectclass: dcobject
objectclass: organization
o; compadyinfo
dc=xgx
Edit and modify the slapd.conf, as follows,
```

```
#BDB database definitions
database bdb:
suffix"dc=kkdpro; dc=tc, dc=com"
rootdn"cn=root, dc=kkdpro, dc=tc, dc=com"
#Cleartext passwords,especially for the rootdn, should
#be avoid.Sce slapasswd(8)and slapd.conf(5)for details.
#Use of strong authentication encouraged.
Rootpw(SSHA)FZbukA9jjsz5ZRthQK0tSylnzt2dimth
#The database directory MUST exist prior to running slapd AND
#should only be accessible by the slapd and slap tools.,
#Mode 700 recommended.
directory/data
#Mycustom conf.
```

Run the command, slapadd-f slapd.conf-data/domain.ldif to start the ldap service (run slapd or start the openldap service)

7. Embedding of interactive code

SCo needs to use the API adapter provided by LMS to interact with LMS. This interaction is based on the data model. Through the interaction between SCO and LMS, the flexibility and richness of network teaching can be realized. Therefore, SCo is the key carrier to participate in the interaction. The actual physical files must be converted into sco to realize the interaction with LMS. The specific operation needs to progress in the sCo file into the API interactive code to achieve. This is very difficult for courseware makers and the biggest obstacle to popularizing the SCORM standard so far, so some experts point out that the SCORM standard is Technical documentation for vendors and tool makers, not (or at least not directly) for content design and developers. Therefore, developing courseware making tools based on SCORM standard is a hot issue at present. For ordinary teachers, some SCORM content maker tools can be used to avoid the trouble of manual programming. This paper briefly introduces the interaction between SCO and LMS. Before calling other API, call litializ0 to initialize and end SCo. with TerminateO. Usually. Use the onload and onunload in HIML to join these two calls.

```
< html>
< head>
  <script language=javascript src="util/APIWrapper.js"> </script>
<script language=javascript>
function loadPage0
{  var result=doInitialize();
}
  function unloadPageO.
{  ;
doTerminate();
}
  <script>
  <title>SCO_ 1</title>
< head>
<body onLoad="loadPage()"onunload="return unloadPage()">
<P></p>
</body>
< html>
```

8. Rational regression of mixed Teaching Mode

With the rapid development of information technology in higher education, information

technology is changing the learning style of learners at an alarming speed, but after the upsurge of research and practice recedes, people gradually return to rationality. Traditional online courses have rich multimedia resources, friendly interaction and other unique advantages, but in guiding learners to take the initiative to participate and teaching evaluation, but also cannot completely replace the classroom teaching of teachers. Without the participation of teachers, the learning effect is not as ideal as expected. Under this background, the concept of hybrid learning or hybrid teaching emerges as the times require, and the teaching model of distance and open education is a kind of code. Type A hybrid teaching model.

9. Hybrid Teaching Model based on Moodle Network course

Moodle inherits and develops many advantages of the traditional network course, and makes up for the traditional network course teachers and students. The online teaching module of Moodle adopts the dynamic modular design of free combination, which has the "popularity" of the network course development and design. The rich learning activities embody the advanced concept of process learning, and inherently unified with the teaching ideas advocated by distance open education. The continuous improvement of Moodle has laid a good foundation for the realization of hybrid teaching mode.

In the hybrid-teaching mode based on Moodle, the traditional teaching and network teaching combined organically, and the students complete the learning process with the cooperation of the real classroom and the virtual classroom. The real classroom is the teacher direct guidance place to the student, mainly completes the important difficulty explanation, the independent study method guidance, the mixed teaching method training and so on, the teacher occupies the leading role, completes through the face-to-face instruction form. Virtual classroom is the indirect guidance place for teachers to students. It mainly completes the use of online learning resources, the participation of learning activities, the participation of discussion and answer questions, the implementation of learning evaluation, etc. Students play a leading role in Moodle Completed under the die web course. Teachers play an important role in both real classroom and virtual classroom. Teachers are not only the tutors of face-to-face instruction, but also the designers of Moodle curriculum and the guide of students' online learning, as well as the evaluators of students' learning process. Real classroom and virtual classroom play a unique role, teachers play an important leading role in the two classes, and face-to-face tutoring and Moodle network courses complement each other, forming an organic teaching process.

10. Design and Analysis of Moodle Network course

According to the characteristics of hybrid teaching mode of open education and the principle of Moodle course design, the design of Moodle network course can analyzed. Distance and open education are the teaching process that combines classroom teaching and network teaching organically. The instruction course in classroom teaching includes online learning and training, whose main function is to guide students to make necessary preparations for self-learning on the Internet. The first thing students see is the curriculum interface. When designing style-interface navigation, students should start from their psychological characteristics and cognitive level, attract students' attention and stimulate their interest in learning, to show the beauty of online teaching. The text teaching material and the online resource have very strong complementarily, before designing the online teaching resource. we should carry on the effective conformity and the reconstruction of the text teaching material, highlight the charm of the rich media on the net, but not simply "the content move"; The important and difficult tutoring is an important part of classroom teaching. Many obstacles encountered by students in the process of online learning solved through face-to-face instruction. Skillfully use the course function in the design of the online learning process. Embody the heavy and difficult learning process, and stress the guiding role of the heavy and difficult tutoring course; use the diversified practical interactive function of Moodle to carry on the interactive communication link in the necessity Timely design, create interactive affinity, and

achieve interactive discussions with the classroom complementary effect.

11. Conclusion

Educators because of its advanced educational ideas, novel design methods, and rich teaching feedback and so on have favored Moodle. Although Moodle will encounter various kinds of resistance in the process of popularizing, however, it is not an empty name as an Aladdin lamp in the teacher's hands. It believed that with the joint efforts of open education practitioners and researchers, the difficult problems in the development of distance education will be solved, and the Moodle network course under the mixed teaching mode will certainly be able to promote the process of education information in National Open University.

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