Design and Implementation of MOOC Platform Based on Computer Network Technology

Dinghua He and Wei Wang
Department of Computer, Wuhan Polytechnic, Wuhan 430074, China
hedinghua@qq.com

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Abstract. This paper describes the design and implementation of MOOC platform for network technology major of Wuhan Polytechnic. It mainly includes the functions of the MOOC platform and the teaching methods based on the MOOC platform. And the realization of MOOC platform functions.

Research Status of MOOC Course Platform MOOC

Teaching interaction refers to the mutual communication and interaction between students and the learning environment in the learning process with the purpose of students' construction of the correct meaning of the learning content. It includes not only the interaction between students and teachers, students and students, but also the interaction between students and various materialized resources. Teaching interaction can improve learners' participation in learning and promote students' in-depth thinking through effective man-machine and interpersonal communication. Web technology development and the progress of the new media took us into an age of open sharing, the rapid development of the MOOC raised a hot wave of online education in the world, the researchers have joined in the research field, MOOC in recent years, about MOOC, MOOC platform construction, course construction MOOC implementation technologies such as research, but the MOOC platform teaching interactive functions so that the number of micro-level research and still less attention.

Some Suggestions on the MOOC Course Platform

The interactive evaluation index system of MOOC teaching is an important research topic in distance education and an essential link to realize high-quality online education. The research on the interactive teaching of MOOC platform is of great significance. This paper will put forward the following Suggestions for improvement of domestic MOOCs platform from five aspects: the interaction between students and media interface, the interaction between students and learning resources, the interaction between students and teachers, the interaction between students and students, and the interaction between students' own concepts.

Expand Teacher-student Interaction

At present, the teacher-student interaction on major MOOC platforms in China is still dominated by Posting topic discussion posts. Sometimes it is difficult for teachers to timely find the problems of students in many discussion posts, and the quality of teacher-student
interaction cannot be guaranteed. Therefore, it is necessary to divide the discussion area into different sub-sections. In addition, the author found that learners often need to jump from the video page of the course to the discussion area to ask questions, which is cumbersome and leads to poor interactive experience. Therefore, it is suggested to add the function of quick question to teachers and private message to teachers. In addition, the author found that the channels of teacher-student interaction in major platforms were relatively single, and suggested to add more interactive channels, such as the establishment of WeChat group or qq group.

Add Resource Sharing Module

The learning resources of the three MOOC platforms studied in this paper are mainly video courses, which is the mainstream form of MOOC nowadays. The wraps hardly provide other forms of learning resource for learners, separate video resources is often difficult to meet some learners' study demand, therefore the author suggest in the platform in the new section of extensibility resources sharing, teachers or other learners can be excellent learning resources sharing, enhance the interactivity of learners and learning resources.

Add Collaboration Functions

Because of the characteristics of distance learning, learners are often isolated in the learning process. Therefore, it is necessary to strengthen the collaborative learning among students and eliminate the loneliness of learners in the learning process. Among the three platforms studied in this paper, only the online platform of xuetang provides Wiki function for learners, but currently it can only support text editing and modification, which cannot meet the further requirements of learners. Therefore, the author suggests that the platform or teachers can enhance collaborative learning among students in various ways, so that learners can move from isolation to connection.

Set the Level of Course Knowledge

In addition to computer classroom teaching, schools can also use the network environment to implement hierarchical teaching. First of all, the school should build a network platform for students, the establishment of campus network, through the intelligent control of hardware and software to make students healthy Internet. On the network platform of the campus, teachers and students can communicate point-to-point and point-to-point. Secondly, the school should carry out a variety of forms of network communication activities to meet the learning needs of students at different levels, such as separate assistance, group q&a, comprehensive broadcasting, but also through the BBS webpage for students to ask questions immediately, teachers at any time q&a. Network communication can make the interaction between teachers and students more frequent and more convenient. Students can ask questions to different teachers. Teachers can answer questions from different classes. This kind of open network environment can truly realize the asynchrony of the communication between teachers and students. In addition, the opening of the school network can greatly enhance students' enthusiasm for using computers to surf the Internet. On the one hand, students can make courseware with the help of network resources to develop their studies; on the other hand, they can improve their computer operation level and computer literacy.
Reform of Teaching Mode

In the new era of "Internet + education", our teaching mode has become diversified. Flipped classroom is one of them, which is student-oriented and focuses on cultivating students' independent learning ability. However, there are many difficulties in the course practice. The combination of Internet teaching platform and flipped classroom, the sharing of teaching resources and big data analysis can promote the development of flipped classroom teaching. From the application of Internet teaching platform in art flipped classroom to the summary and discussion of practical teaching experience, this paper expounds the new teaching mode of Internet platform teaching + flipped classroom.

Project-based Teaching

The so-called project teaching method is actually a method that takes students as the main body and completes a project independently under the guidance of teachers. In the process of this project, a series of links including information collection, scheme design, project implementation and final evaluation should be completed. Students through specific practice, can be clear in all links of the basic requirements, and to achieve practical grasp. It is especially important to choose the right project in order to make the citation project teaching method be implemented. In the above introduction of teaching method, we know that the main requirements of the case of the introduction project teaching method are as follows: it must be recent and it must be developed practically. As the main body of development, it can be an enterprise or a teacher in social service. Therefore, to obtain a successful case, the first step is to start from the main body of development. The course design of PHP program design for computer network major of Wuhan Polytechnic takes online examination system as a real project. This paper analyzes the design of online examination system. Then the online examination system for functional design, database design, functional decomposition, functional implementation. The project must be broken down into small functional modules. Each video course should only include one small functional module. Only in this way can we focus on the key points and make the problem clear. Taking the case developed recently by the enterprise as an example, the real case of the enterprise needs to be decomposed into a subtask, which can also be called a teaching unit, and its requirement is to be suitable for teaching implementation on the basis of independence. Secondly, in view of each teaching unit, teachers need to design the corresponding teaching situation, this situation is mainly designed to more students understand all aspects of the subtasks, relevant content including function analysis, the effect of knowledge organization, implementation process, implementation, and the relationship between the adjacent tasks, students through the task of learning, can extrapolate, design similar to the subtasks and practical implementation. Finally, it is the requirement for the design of teachers' teaching process. Both in teaching hours and in the practice of online courses, teachers play the role of a guide, so students should not be too dominated. The purpose of the design of teaching process is to achieve task-driven teaching, rather than using teaching to complete tasks. The accurate decomposition of teaching cases, the reasonable arrangement of teaching situation and the proper design of teaching process are all the preparatory work before the actual operation of the software. However, in the real operation process, it is necessary to take the computer software as the underlying technology basis and link the theoretical knowledge with practice through the project. Enterprise project cases or software are relatively tedious. Here's an example of a relatively simple piece of software: web editing software. Based on the network knowledge in the teaching of computer
software, this paper discusses how to apply the project-based method in the teaching of computer software through the relevant operation of personal web page making. In computer courses related to learning, students understand and grasp is often just theory knowledge, for little is known about how to apply this knowledge to practice, such as network knowledge, and it involves aspects including HTML, CSS, JSP and ajax, teachers want students to understand the network knowledge, must have its practical operation. For example, to assign the task of developing personal web pages to students, we first need to select the web editing software, and then collect, sort out, design and develop the web pages according to the corresponding development standards. This process needs students to complete independently. This kind of software teaching method is the main way for both teachers and students to learn and progress. Teachers can timely adjust their own teaching content according to the expanded knowledge. Through a series of sorting and development process, students enrich their theoretical knowledge, better understand the project, and improve their ability to control the project at the same time. In this process, teachers and students also get good communication and contact, which greatly improves students' learning enthusiasm. Computer software introduced type project teaching method in the teaching, the teaching process is actually the subtasks in software company or the practice process of the enterprise, but is must to be highlighted and the combination of teaching, make students two-way to recognize the meaning of the task and meaning of knowledge, and the teacher's role is to guide and students as the main body should be independent to complete the task, is the only way to break the traditional teaching methods, to improve students' operating ability, accumulate experience and lay the foundation for later career.

Case Teaching

Traditional teaching focuses on the explanation of theoretical knowledge, but fails to pay enough attention to students' practical development ability. The proportion between teaching class and practice class is not reasonable, and the teaching thinking and teaching consciousness are not suitable for Web development technology and other courses that focus on practical and practical ability. As a result, students are extremely lack of practical project development ability and experience, and lack of deep understanding of knowledge points. In traditional case teaching, too many cases with poor relevance lead to a lack of consistency and systematicness in the overall teaching, which is not suitable for Web development technology courses. Different from the traditional case teaching method, the extended-through-case teaching method takes a complete case as the center, runs through the whole teaching process, combines the knowledge points of the whole course in an orderly way, and makes the whole class integrated. There are several points that distinguish the extended-through-case teaching method from the traditional case teaching method: first, the selection and formulation of cases need to include the knowledge points of the whole course; Secondly, the case teaching method needs the consistency and systematicness of the curriculum in the implementation process. In addition, the case needs to be close to the curriculum, close to the background of The Times. Through case teaching and the teaching method of cooperative learning method effectively combines the advantages of two kinds of teaching method together, both have played an important role in stimulate the enthusiasm of the students to think independently, guide the student to change focus on knowledge to ability, and improve the students' consciousness of cooperation and competition, to enhance the students' ability of team cooperation ability and the actual development, in addition, the teaching methods to enhance
the two-way flow of students and teachers, enrich the teaching content, teaching form, effectively improve the teaching quality.

Blended Teaching

The combination of "online teaching" and "offline teaching" is complementary and organic. Blended teaching not only has the advantage of sharing high-quality online teaching resources and breaking through the limitation of time and space, but also makes use of the traditional classroom to make up for the freedom and capricious of pure online learning. Teachers and students interact online and offline, and use the network to track and guide students' learning in real time.

"Personalized learning + targeted guidance" highlights the subject status of students and realizes the full interaction between teachers and credits. Students use the fragmented time to study independently through the network teaching platform, fully reflecting the personalized learning. At the same time, integrating traditional classroom teaching, teachers guide students to learn and give targeted guidance, so that students can solve their doubts in class, which is conducive to improving their enthusiasm and creativity in learning.

Hierarchical Teaching

In the process of teaching, the breadth and depth of computer knowledge, it is impossible to make the class students all at once to master all the skills, therefore, the content of the lecture should not be too difficult or too simple. Too difficult, "c" group of students can not reach the standard, too simple, "a" group of students have no interest in learning, so, must be in accordance with the class at different levels of the actual situation of students teaching, by students through certain efforts to achieve the corresponding teaching objectives. For example, when explaining the creation and setting of tables, students in group c can set a low standard for entering text data in the table after the table is created. To set standards for group b students to modify and beautify forms as required, in addition to creating forms and entering textual data in the forms; In addition to the above operations, students in group a were also given the criteria to sort the contents of the table and perform simple statistical operations.

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Conclusion

The application of network teaching platform in college computer teaching can effectively improve the learning efficiency and enthusiasm of students, as well as the teaching quality of teachers. Based on the network teaching platform, the computer teaching of college students can be constantly reformed to help students improve their learning efficiency.

The network teaching platform breaks the limitation of space and time and improves the communication between teachers and students. Online education service platform into classroom teaching, is the inevitable trend of future classroom teaching, we need more to study and discuss.
References


