Application of Project-driven Teaching Practice Based on Sakai

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Abstract. Sakai open source software provides course management, learning and collaborative research. As a university teaching complement and a form, it can be better done with the realization of project-driven learning and teaching effectiveness. Sakai platform is proposed based on the project-driven teaching, project-driven construct the basic process of teaching, and the various stages of a more detailed presentation and analysis.

Keywords: SAKAI, PROJECT-DRIVEN, COLLABORATION

1. Introduction To Project-Driven Teaching And Sakai

1.1. Project-driven teaching

Project-driven approach from constructivist learning theory, adapted to their mode of project-driven teaching: "a student-centered, teachers in the teaching process, the role of organizing and guiding the use situation, cooperation, conversation and other elements of the learning environment Give full play to the students of the initiative, enthusiasm and innovative spirit, and ultimately achieve the effective implementation of the current students have learned the meaning construction purposes. "In this mode, the focus is teaching students to achieve the degree of guidance teachers Task is to have the student experience, knowledge, and interests to select the appropriate level of their projects, students explore the knowledge of exposure to the scene being, that in the real world application of knowledge to solve problems. It will fundamentally change the traditional classroom cramming method of teaching to student-centered and teacher-lad's teaching mode.

Project-driven approach to teaching content depends entirely on the students need to complete the project, so all the items in the teaching of teaching objectives intended to try to cover all the knowledge, the formation of a gradual, more variety and the project group, building a complete layout of instructional design . To the greatest extent possible for students to get involved in a variety of practical projects, the selected project must have the availability, integrity. The size of each project should not be too large, and should have clear focus on the theme or highlighting.

1.2. Sakai Introduce

The Sakai Project began as a community open source software development project founded by the University of Michigan, Indiana University, MIT, Stanford, the portal Consortium, and the Open Knowledge Initiative (OKI). The purpose of the project is "develops and distributes the open-source Sakai Collaboration and Learning Environment (CLE), an enterprise-ready collaboration and courseware management platform that provides users with a suite of learning, portfolio, library and project tools."

Sakai is distributed as free and open source software under the Educational Community License version 2.0 ("ECL"). Throughout the world over 160 universities, colleges and schools is using Sakai. This proves that Sakai is a flexible, powerful and open platform for learning and collaboration.

Sakai provides today's teachers and learners with the rich array of tools and features. Some of the many available tools include:Announcements,Resources,Site Roster, Email Archive,Wiki,Blog,Calendar, Syllabus,

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Chat, Lesson Builder,Assignments,Drop Box,Gradebook,Tests & Quizzes, Discussion Forum,Glossary,Web Page,News,Accounts,Site Setup,Users,Realms etc.

Sakai is not just virtual learning environment software, is also open source development model, or the Sakai community. To contemporary teachers, Sakai is a magic toolbox.

2. Sakai Platform Based On The Teaching Process-Driven Design Projects

Sakai shifted to teaching, the previous teaching model into the current project-driven learning and cooperative learning model, which is an innovation in Sakai. Implementation of project-driven approach, teachers play a leading role, that is, teachers must be prepared in advance according to the teaching content of one or more items. The development process using project guide and organize students to discuss the activities, in the course of the peer assessment of students, teachers comments, combined with successful projects to give presentations. The task of teaching the content of the project leads, from point to plane, bricklaying ceremony to exercise the entire project development process, through the process of project activities to train students to master the application of knowledge, the entire teaching contents.

Using Sakai network teaching platform to carry out project-driven teaching aids, the traditional teaching, but also more open these stages, but integrated into the project-driven and therefore the idea of teaching in the form of more abundant. According to the study process and project-driven nature of learning thinking, I regard "Linux server configuration and application" as the course platform to talk about the process of project-driven teaching model.

2.1. Teachers designed the project, students collect information on stage of the project

Teachers should point this course knowledge extracted and incorporated into each specific project, so teachers and students teaching and learning around the implementation of these projects are launched, and the introduction of enterprise on the background of the scene, the entire teaching the final simulation activities as "work in the enterprise to accomplish specific projects." In this course, a comprehensive and systematic introduction to the Linux operating system using the method set up a network server, including Samba services, DNS services, Web services, FTP services, email services, network services, MySQL. Samba services that we can extract the key knowledge points in this chapter, and find the corresponding application program, which is the specific name of the project set up within the schools for the use of Linux file server, the project's specific requirements are as follows:

1) All current teachers in schools can office, but no matter which computer in the work, must file their own data to a Samba file server.

2) Information Division and Applied Technology Division has its own directory, the same faculty of teachers to have a shared directory, other Faculty teachers are on the server can only access their own personal home directory.

Teachers to design a good project, each student research the job requirements, based on their professional knowledge to master, independent collection, analysis and consolidation project related information. Then independently determine their own design work plan, including: working procedures, working hours, test plans and implementation plans.

2.2. Carefully designed classroom teachers, student group discussions to determine the best solution

Our teaching is an independent organization working with small groups combined. Individuals do in the previous plan and then discuss group, each team member must put forward their views and work plans, and ultimately determine the optimal solution. In this process, students inspire each other, learn from each other, to fully tap the potential of students, help students develop creative thinking skills. Also asked teachers should have rich experience in project development. Only teachers have a strong ability to integrate the project in order to have strategies to help students learn to mature and experience in project development.

2.3. Students to select the final work plan, and then work independently to complete their tasks

Students through group discussions, a comprehensive analysis of the project, the team leader's role as project manager, division of tasks, team members each responsible for different modules, and complete their tasks independently. This process, like the model with the company, through enterprise training, students will be required from the start in a team mode and the atmosphere, which is the traditional mode students are generally individual has great difference. In team mode, unity and cooperation is conducive to student ability, is conducive to student leadership training, help students develop good character. The professionalism and professional ethics is needed to develop the actual working environment, and enterprise training for the formation of these provides a good platform. Teachers' Guidance help students solve various difficulties encountered in the project.

2.4. Students examine the results of the project, the teacher checks the quality of the project

Results of the work in accordance with the intended target to self-and mutual checks and determine how to achieve results, this process our students a sense of responsibility, quality awareness and assessment methods. In addition to the work plan and teachers within the content of inspections, quality assurance conditions should also be checked.

2.5. Assessment of students to complete the work, and then complete the final evaluation of teachers

First, the work done by the students themselves to work on the evaluation, including project preparation, project implementation process to solve various difficult problems, their effects are all negative aspects of the module were summarized, and then guide the final summary of the work of teachers, Performance evaluation, and identify gaps and correct approach.

3. Sakai Teaching Platform In The Development Of New Project Website On The Steps

The recipe for creating your first site is as follows: Login as admin and add two users. Create a "project" site, choose the tools in the site and enroll the student and instructor.

1) Create users: browsing http://localhost:8080/portal bring us to the main page, login in as admin and select the user tool from the "My Work Space" site. Add an instructor and a student to the site.

2) Create a new course.

First, login as admin and visit the "My workspace" sites tool. Ignore all the links to sites that you do not recognize. The other sites are part of the default setup of the application (perhaps the GUI designers should hide the extras from the view of newbie administrators). Clicking on the link "New Site" will send you to a site edit form. Enter the course name "Linux server configuration and application "and enter the course information. Leave any undefined elements as default. Notice that thanks to your actions the application published the site: now anyone can join with the role named access. The system designers intended the access role to give students, project workers access to a site, but limit the students' powers to modify the site. In comparison, a second possible choice: the maintainer's role contains more powers and is designed for use by those in charge of the project for example a teacher or instructor.

3) Curriculum design. Teachers log on to the Sakai learning platform, go to "computer file based" online course, through the tools to design customized curriculum courses, the main tool for the following three courses:

Home tool: This tool is that students and teachers into the curriculum the default page, the teacher through this tool, released on the curriculum and teaching activities of the notice, forums and discussion board listing the latest topics on the current online course content, learning Description of the method; students through this tool to understand the course information, see the teaching activities of the arrangements and notification information.

Syllabus Tools: teachers through this tool to create a "Linux server configuration and application" course syllabus, the methods can be created online edit, copy Word documents, links to other Web resources.

Resource Tool: With this tool, teachers can "Linux server configuration and application of" network course add all kinds of learning resources, resources can be the type of Web page, text, audio, video, PPT documents, Word documents, or flash animation, resources automatically Stored on the server, the formation of multi-media learning resource package. Storage resources can also be after the new file, move, rename, edit, or delete operation. Supplementary curriculum design tools include calendar, curriculum, course notifications, student roster, results book, course glossary, etc. These tools help teachers in online course design.

4) Organize teaching activities. In the "Linux server configuration and application, " this course, the teaching activities are designed and carried out for each knowledge point, when a knowledge point through teacher lectures, the next step is to carry out web-based independent learning, group Collaborative learning activities.

Teaching in the Sakai platform, providing a variety of teaching tools, including:

Job Scheduler tool: When the teacher had taught a knowledge point, it should be arranged through the working tools of a job for students, for students to access learning resources through the network to consolidate the students learned. Teaching in the Sakai platform, tools for teachers based on job tips, simple steps can design a high-quality operation. In design, teachers need to specify the job title, job start date, end date, the latest date of submission, the students submitted a pattern of operations (online preparation, paste attachments, non-electronic operations), scoring method, in the embedded HTML editor Enter the contents of device operation, the operation start and end date to schedule the students, the teacher correcting homework scores can be made to students and guidance reviews.

Chat Room: The interface is similar to the network operation and use of chat rooms, the main problem for the teachers and students to discuss the space program. Students in the independent learning process, you can always ask questions, teachers and other students are free to answer questions.

Discussion: Chat with different, first of all in the discussion board topics specified by the teachers, students and teachers around the specific topics were discussed, and will not allow students to deviate from the normal study track. Discussion of the operation and use of a forum similar to the current network, the teacher can design the template forum, statistics students to speak.

Exercise and test: This tool is mainly used to assess student learning, adding to choose the type of problem, investigation, short-answer, fill in the blank, paper, matches, non other questions, you can enter the subject line can also be extracted from the exam questions, Teachers need to set the subject type, casual working, the answer, the correct answer, scoring methods, feedback, examination time, students can access this module after the completion of the answer within the time specified, automatically record results to the results List.

Survey Tools: Survey tool teachers use to publish the questionnaire, the questionnaire used to gather student learning orientation, learning style, knowledge and the teaching content, teaching methods and other comments and suggestions, the questionnaire can be used as tools for both pre-test tools Can be used as evaluation tools.

Email Archive: Each course sites and project sites are sites with an automatically generated E-mail boxes, the user can in the menu bar click on "Mail Box" tool to open the view. In the teaching process, sent to the newsletter e-mail address is automatically distributed to site managers and all the participants.

Wiki: Wiki can be used to create and modify web tools. In teaching, it can be used in collaboration with researchers and teachers, writing documents, sharing information and creating teaching materials and so on. Wiki is a cooperative site, multiple users can add and modify the contents. Sakai Wiki Tool gives users the ability to create a Wiki, the Wiki is to focus on a specific course or project site. Site members can monitor, update and edit the Wiki content. The Wiki tool also allows users to add images to Wiki page links to other documents, and view the changes in the history of the Wiki. Web site owners can control what the members have a license.

Other design tools can be used in teaching vocabulary as well, search tools, mail tools, drop boxes, roster, group information, not details.

4. The Coordination Teaching Based On BCU Sakai

Sakai is student-centered and embodies the constructivist theory of thinking, for inter-group collaborative learning. In particular, the working group specifically to discuss the application of such areas and wiki, so that the remote students, group learning, collaborative learning is possible.

Sakai is an interactive learning platform that not only maximizes the preparation of teachers to save time and simplify the school level, educational administration, but also for the students to open up creative interactive learning space to enable the students and between students and teachers Interaction between. In fact, Sakai is not only a learning management system, but also kinds of teaching educational administration platform. Sakai powerful, but also open source products, it has good characteristics of the open source community support, as well as great flexibility and customization, according to the actual situation of different institutions tailored.

5. Conclusion

Through the use of Linux server configurations and application programs in the implementation of Sakai in the education system, we can see that compared with traditional teaching methods, the focus on applications and operational implementation of the project-driven curriculum teaching, both to ensure that teachers play a leading role Also help to stimulate students interest in learning, enhance the learning initiative, the innovative spirit of students, self-design capability and self-awareness has a positive role in learning. Sakai zero-cost education system, teaching functional and can add course management tool, was unanimously welcomed by teachers and students to prove their teaching as a common support platform to use.

6. Acknowledgements

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