Moodle: Discover Open Source Course Management Software for Medical Education

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Objectives

• Define Moodle’s theoretical framework for developing pedagogically sound adaptive e-learning systems.

• Examine the course creation functionality such as teaching and learning support tools and different administrative functions available in Moodle.

• Explore essential features and potentials of Moodle for providing a variety of web 2.0 technologies in a single online environment.
What Are We Going To Talk About?

• Online Learning/e-Learning Course Management Systems / Platforms

Cartoon source: http://www.studymentor.com/studymentor/
Introduction: Need for E-learning

• Due to many competing demands on their time, academic faculty have less time for teaching*

• Physical distance among diverse health care delivery sites makes it a challenge for traditional face-to-face instruction

• Advances in medical knowledge and changing accreditation requirements present a challenge to fit a vast amount of new content within the curricula

## Some e-Learning Platforms

<table>
<thead>
<tr>
<th>Angel</th>
<th>LearnLinc</th>
</tr>
</thead>
<tbody>
<tr>
<td>BlackBoard/WebCT</td>
<td>Knowledgesoft</td>
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<tr>
<td>Desire2Learn</td>
<td>Pathware</td>
</tr>
<tr>
<td>Learning Space</td>
<td>EduSystem</td>
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<td>eCollege</td>
<td>Vcampus</td>
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<td>ToolBook</td>
<td>WebBoard</td>
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<td>Virtual-U</td>
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<td>Quest</td>
<td>Ucompass</td>
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<td>SiteScape Forum</td>
<td>Prometheus</td>
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<tr>
<td>Team Wave</td>
<td>Generation 21</td>
</tr>
<tr>
<td>Norton Connect</td>
<td>The 20 Best Learning Management Systems</td>
</tr>
</tbody>
</table>
Common Components of e-Learning Platforms

- Announcements
- Calendar
- Gradebook
- Asynchronous discussion
- Synchronous chat room
- E-mailing

- Online journal
- Dropbox
- Document sharing
- Team areas for collaboration
- Quiz, test, and survey
- User-activity reports

SOURCES: EDUCAUSE; Illinois State University
Open Source LMS

No, it is not Noodle!
What is Moodle?

Moodle is..

• A software package for producing Internet-based courses and web sites
• Open Source software (under the GNU General Public License)
• Copyrighted, but are allowed to copy, use and modify
  – You agree to:
    • provide the source to others;
    • not modify or remove the original license and copyrights, and
    • apply this same license to any derivative work.
“… It started in the 90's when I was a webmaster at Curtin University of Technology and a system administrator of their WebCT installation. I encountered many frustrations with the WebCT beast and developed an itch that needed scratching – there had to be a better way (no, not Blackboard :)

...

“I am particularly influenced by the epistemology of social constructionism - which not only treats learning as a social activity, but focuses attention on the learning that occurs while actively constructing artifacts (such as texts) for others to see or use.”

"I'm committed to continuing my work on Moodle and on keeping it Open and Free…” - Martin Dougiamas

http://docs.moodle.org/24/en/Background
The name comes from:

- Modular
- Object
- Oriented
- Dynamic
- Learning
- Environment
So what does that mean?

- Moodle’s user-friendly interface makes it easy for instructors to create courses.
- Moodle’s modular design makes it easy to incorporate interactive features within courses for learner engagement.
- Students only need basic browsing skills to start using the course site.
How much tech support is required?

- You must have server space to install and use Moodle.
- Server should run PHP, and support an SQL type database: initial installation may require some IT help.
- Once installed, it is very easy to set up and maintain courses within Moodle.
- Beginners can have their Moodle course sites up and running within 2 hours.
Moodle as a Collaborative Workspace

**Underpinning Philosophy:** Social Constructivism

- All participants in a learning environment can be both teachers and students.
- Moodle supports this by providing a host of web 2.0 technologies in a single learning environment:
  - forums, glossaries, wikis, assignments, quizzes, choices (polls), databases etc

[http://docs.moodle.org/24/en/Pedagogy](http://docs.moodle.org/24/en/Pedagogy)
Getting Started

• Adding/creating a new course
  – by default, site administrators and course creators have privileges to add/create a new course

• Once the course is created, instructors can do anything within a course
  – editing the content,
  – changing the activities, and
  – grading students, etc.
Getting Started

• Select from one of 4 course layouts;
  – SCORM, Topic, Weekly or Social format.
• Click “Turn editing on” within the blank course template.
• Begin creating your course!
Course Management Features

• Assignment
  – Learners can submit assignments in any file format (MS Office, PDF, image, video, etc.).

• Chat
  – The chat module allows participants to have a real-time synchronous discussion via the web. This is a useful way to get a different understanding of each other and the topic being discussed.
Course Management Features

• Choice
  – The choice module enables the teacher to ask a question and specify a choice of multiple responses.

• Database
  – Enables participants to create, maintain and search a bank of record entries. The format and structure of these entries can be almost unlimited, including images, files, URLs, numbers and text amongst other things.
Course Management Features

• Forums
  – Enable enrolled participants to have asynchronous discussions; you can choose from several different formats, i.e. simple discussion, Q&A, blog-like etc.

• Glossary
  • Enables participants to create and maintain a list of definitions, like a dictionary. Glossary entries may be automatically linked wherever the concept words and phrases appear throughout the course.
Course Management Features

• Lessons
  – This module enables the teacher to create an adaptive learning experience consisting of a series of pages containing questions.

• Quiz
  – Allows for true-false, multiple choice, short answer, matching question, random questions, numerical questions, embedded answer questions with descriptive text and graphics.

• Survey
  – Provides a number of pre-set survey instruments.
Course Management Features

• Wiki
  – A wiki is a collection of collaboratively authored web documents. Basically, a wiki page is a web page everyone in your class can create together, right in the browser, without needing to know HTML.

• Workshop
  – An activity for peer assessment of documents (Word, PP etc.) that students submit online. Participants can assess each other’s project. Teacher makes final student assessment, and can control opening and closing periods.
Resources

Resources are the primary tool for adding content into a course:

- Upload files
- Create folders (helps keep related files organized)
- Deploy IMS Package
- Insert a label
- Add plain text page
- Add links to external websites
Learner Management

• Creating profiles
• Groups
• Enrollment
• Calendar
• Grading
• Logs
Learner Management Features

- Creating learning content is only part of what a good course management system (CMS) must do. The CMS must *manage* learners in a variety of ways. Learner management includes:
  - Access to information about learners in a course.
  - Ability to segment participants into groups.
  - Site, course and user calendar event scheduling.
  - And so much more...e.g. applying scales to different learner activities, managing grades, tracking user access logs and uploading external files for use within the course etc.
Learner Management - Groups

- Assigning learners to a group is a common practice in education and business. Moodle allows the course instructor to easily create group categories, and determine how members will interact with each other and within various activities.
Learner Management - Calendar

• Keeping a calendar of events is important to both the learner and course instructor. Events can be created for different categories, including:
  – Global events that appear in all courses (system admin).
  – Course events set by an instructor.
  – Group events set by instructor relative only to a group.
  – User events set by learner (e.g. due dates, personal etc.).

• Upcoming Events appear on the course homepage, alerting the learner across all courses they are enrolled in of different category events. Alerts are color-coded by category.
Learner Management - Admin

- The Administration control panel puts all important learner management functions a single click away.
- Teachers and students can be manually enrolled or removed from a course.
- Configuration of course Backup and Restore is achieved on a single screen.
Learner Management - Scales

• Instructors may define custom Scales to be used for grading Forums, Assignments and Journals. Standard scales include assigning a value from 1-100% for each submission (or no grade).

• Custom scales allow the instructor to fine tune their grading for specific content. Easily create several types of scales, and connect them with different activities you add to the course.
Learner Management - Grades

- The Grades feature in Moodle provides a quick view of all Forum, Assignment, Journal, Quiz, Lesson and Workshop grades. The grading scale applied to a learner’s submission is shown, along with a cumulative total, on a single page.

<table>
<thead>
<tr>
<th>Surname</th>
<th>First name</th>
<th>Needs Assessment</th>
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<tr>
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<td>Toy</td>
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<tr>
<td>Rio</td>
<td>Zamaron</td>
<td></td>
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</table>
Learner Management - Logs

- Monitor when and what course resources the learner has accessed. Moodle's Logs provide detailed learner activity.

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<thead>
<tr>
<th>Time</th>
<th>IP address</th>
<th>User full name</th>
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<td>Kael ORourke</td>
<td>assignment view</td>
<td>Task Analysis</td>
</tr>
</tbody>
</table>
Learner Experience - Login

- Learners find it easy to navigate a Moodle course homepage in their browser; intuitive “breadcrumb” links are always present. Login occurs on a familiar screen. Initial account set up may be handled by the learner or administrator.

Moodle has its own authentication system, but will integrate with an external database, POP3, IMAP, LDAP or NNTP, allowing domain wide login.
Learner Experience – Enrolment Keys

- Instructors can require an “enrolment key” to allow participation in a class. Enrolment keys are provided to learners separately from the log in process. Courses requiring an enrolment key are indicated in “Course categories” description.

Course category displays descriptions of each course. Symbols on description page indicate when a course requires an enrolment key and allows Guest entry. Students see a list of courses they are enrolled in (My courses) on site homepage after login.
Learner Experience-E-Mail Notification

• When learners “subscribe” to forums they are notified by e-mail of new postings. Additionally, instructors can set e-mail notification for private Dialogues.

*Rich text e-mail is sent to each learner “subscribed” to different Forums. Instructors can set private Dialogues to e-mail notification that comments have been added.*
Tips on Selecting Open Source

- Check its reputation – Google search
- Check the version number
- Is there evidence a community is working on it?
- Are there plans for future releases?
- Does it conform to standards?
- Are there links to companies that provide support?
- Is there documentation?
- Do you and your staff have the right skills?
- What, exactly, does the license allow you to do?
Summary

• Course platforms which you choose should:
  – facilitate developing and delivering course material.
  – provide learners with all the facilities and learning opportunities they would experience in a face-to-face teaching situation.
  – be flexible enough to grow with you as the technological sophistication of your faculty and students increases with time.
  – empower you to scale rapidly.
Summary

• Common Functionalities
  – Structure of the course
  – Author’s, teacher’s and student’s environments
  – Communication
  – Collaborative work
  – Quizzing features
  – Question types
  – Evaluation and grading
  – General properties
  – Technical requirements
  – Cost and support
Resources/References

• TeacherTube – Moodle
  (Quiz example http://teachertube.com/viewVideo.php?video_id=87427)
• Moodle Site – FAQs: http://docs.moodle.org/24/en/Category:FAQ
• Providing Decision Making tools for the E-D-U Community. Available at: http://www.edutools.info/item_list.jsp?pj=4