

Notes from the Course Management Software Summit Network of Illinois Learning Resources in Community Colleges August 6, 2004 Parkland College, Champaign, Illinois

Context

The Network of Illinois Learning Resources in Community College is described on their Website:

NILRC is one of the oldest community college learning resources cooperatives in the nation. Although it began as a grass roots organization to meet the basic needs of developing learning resources centers at community colleges, it has become a leader in the development and use of a variety of instructional resources and technologies. It was one of the first organizations to foster satellite teleconferencing and satellite delivery of video resource materials.¹

NILRC designed the CMS Summit saying:

NILRC, representing Illinois community colleges and other institutions of higher education, proposes to seek grant funding to investigate, plan and propose a scheme to support the development of an open source, common course management software platform perhaps using one of the above solutions as a basic platform. We believe that IT and distance learning staff need to be involved in initial discussions and to help with determining the parameters of the grant.

It is our contention that now is an excellent time to move in a direction that will provide colleges with more control at less cost over their CMS platforms. A conservative estimate suggests that about \$1,000,000 is spent annually by Illinois community colleges alone on CMS license fees. Savings, therefore, could be considerable.

We realize that changing CSM systems appears daunting, but we believe that we can gain considerably more control over costs and content and reap enormous benefits down the road.

We invite you and any other interested parties on your campus to join us at Parkland College on Friday August 6, from 10 AM to 3 PM for these discussions.²

The Summit included presentations by Moodle, Sakai, Desire2Learn, ANGEL, and Blackboard representing all proprietary options.

Seventy two attended, including university representatives.³

¹ From the NILRC Website <http://www.nilrc.org/whatis.htm>.

² From the NILRC Website <http://www.nilrc.org/CMSsummit.htm>.

Introduction

NILRC Executive Director welcomed the attendees. Highland Community College Dean of Learning Resources opened the discussions commenting that his CMS license had increased 26% this year. When he mentioned the possibility of seeking a less-expensive CMS solution on the NILRC list, a number of people commented about similar license increases. He also observed that the CMS systems were beginning to “look” alike and had similar functions.

Moodle

Bryan Williams from remote-Learner.net, an Authorized Moodle Partner, presented the Moodle Course Management System.⁴ He said the system was open source, available for download under the GPL license. The system is written in PHP. He commented about the increasing number of K-12, school districts, colleges and universities, and consortiums and states adopting Moodle. The underlying design was the “constructivist model” of learning. Moodle is a third-generation CMS. It has a built in editor. Moodle now has video chat with a white board. There is two-way dialogue person-to-person or student to instructor. Moodle embeds players in their multimedia. A glossary feature supports embedded links from words or phrases in the glossary. The built-in editor supports mathematics symbols.

Although presenters were limited to about 30 minutes, Bryan faced an intense 25 minutes of questions and answers. Most were asking about features; there were no questions about architecture. One commented about the extremely fast (1 to 3 seconds) response time during the demonstration. Bryan said that was typical of PHP and Moodle. Another observed that all of the typical collaboration tools were now available in Moodle. Several questions focused on the types of questions supported by Moodle quizzes. Others asked about developing quizzes and learning materials. There were a number of questions about integration.

Comment: The discussion of integration tended to focus on provisioning the Course Management System with student enrollments. This would include identifiers, names, and course enrollments. Apparently provisioning is often done by creating lists from the student system and then updating the course management system. During the discussion of grade books, automatic posting grades into the student information system (SIS) was a desired feature. As described in the presentations, “integration” generally meant direct access to the database of another system. This type of integration tends to sensitive to change,

³ Initially 50 were expected to attend. By the time conference materials were prepared 61 had registered. This continues the trend of conferences on either open source software or course management systems exceeding projects.

⁴ remote-Learner.net (formerly Integrated Training Solutions) describes itself saying “... has been creating training, development and promotional multimedia projects for customers in the Southeast and Mid-Atlantic regions since 1982. Our customers include small and large organizations, advertising firms, governmental entities and school districts. We understand budget constraints, quality assurance and project deadlines and strive to give each customer exemplary service.” It is located in Charlottesville, Virginia.

expensive to maintain, and, for the software suppliers, very expensive to develop because a separate “connector” must be developed and maintained for each student system. The real-time standard Web Services interfaces proposed by the Joint Information Systems Committee would provide real-time data, and would be both less expensive to develop and less expensive to maintain, but may perform slower than direct access to a database. Direct access can create additional security risks.

Sakai Project and Educational Partners Program

I gave a brief presentation on Sakai using the SEPP Chef site as an example because of available content. (The slides are attached). The first questions were about the availability of software. I said Sakai 1.0 was going into production at the University of Michigan. However, a November or December release would be more complete and possibly include the assignment and assessment module. One asked about Foothill DeAnza Community College District noting that Etudes would be run under the Oracle portal. Citing recent conversations with FHDA CIO Willie Pritchard, I responded that Foothill DeAnza had selected the Oracle portal as an enterprise portal before the Etudes project decided to use Sakai software. The current implementation of Sakai would be separate from and not integrated with the campus administrative or library systems at this time. I said that Willie Pritchard hoped the Sakai software would be presented as a JSR-compliant 168 portlet or portlets that would operate under the FHDA Oracle portal when appropriate.⁵

Desire2Learn

John Baker presented Desire2Learn. He stressed standards compliance, especially with SCORM 2.0 and IMS. His presentation showed a distinct portal. (Everyone used the term portal referring to any presentation displaying content from several information sources). Desire2Learn was more specific about portal integration citing integration with uPortal at the University of Wisconsin. Desire2Learn also support mathematics symbols.

There was one feature that was not immediately obvious to someone watching the demonstration. Desire2 Learn has two modes of operation. One as student. Another as author. The same presentation is used for student and author except for Edit symbols. When “editing” the content of a “channel,” the channel content is presented in another Web page—“detached” in uPortal terms—with full editing capabilities. When editing is completed, the page is redisplayed with the changed content.

Comment: This design approach is increasingly being found in high-end design products. This feature was added to uPortal in version 2.1 called “integrated

⁵ The person asking the question had been in communication with Mr. Pritchard the previous day, a day later than my conversations with Mr. Pritchard. I commented that many want Sakai to be available under JSR 168, but JSR 168 compliance is not sufficient to ensure interoperability. The extent of Sakai interoperability with commercial JSR 168 portals is still under study at Sakai will be discussed at the uPortal Developers Meeting August 30-31 at MIT.

mode.” Epicentric’s portal (now Vignette) had a channel-level “Edit” button used similar to Desire2 Learn. im+m has introduced this to the universal RSS portlet for uPortal and it will be found on CREE portlets from the University of Hull and its project partners.⁶

With integrated mode, instead of entering table or question and answer data, or manipulating icons, additional elements are added to the channels that move or change the channel in the layout in the same presentation. As the layout is changed, the presentation display follows the changes. This tends to be more complex to program and therefore still appears in few software products. This “edit” mode is a distinguishing feature of both Desire2Learn and uPortal. This mode tends to take less training and follows the usage typical of a student.⁷

Blackboard for the Proprietary Software Suppliers

Brian McHugh commented that rarely does he give a presentation on behalf of WebCT, but had been asked to represent all of the proprietary [commercial] software suppliers. He pointed out that software license costs are a very small part of the Total Cost of Ownership (TCO); software vendors have developed suites of applications, provide integration software for most of the enterprise administrative and student systems, and can provide various levels of technical support of the products. And licensing does support the cost of development.

In his presentation, McHugh related the use of course management systems to the diffusion of innovation pointing out that pragmatists were replacing early adopters. Pragmatists focus on the benefits of using the technology. He cited 12 activities in order to achieve operational maturity. These include integration, infrastructure, user support, and the student experience. He noted a strategic implementation is the key step toward a transformative learning environment. The goals included improved student retention, reduction in the time to graduation, and more effective use of “brick and mortar.”⁸

Blackboard Inc. Strategic Advisor Melissa Anderson was making the point that the Blackboard CMS, and WebCT as well, supported a number of different learning theories and models for teaching. The primary slide

Learning theories
Constructivism/Social Learning Theory
Behaviorism
Cognitivism
Models for Teaching

⁶ The University of Wisconsin, Madison was an early and successful user of the Epicentric portal. The CREE project is described at www.hull.ac.uk/esig/cree/.

⁷ See “The Internet Goes to College:How students are living in the future with today’s technology,” Pew Internet & American Life Project, September 15, 2002.

⁸ The Northern Virginia Community Colleges have hybrid courses with some in-class lectures and discussions, and on-line learning. This increases facilities utilization by 100 to 200% for the hybrid courses.

Case-study Method Problem-centered Approach Active Learning

listed the three theories and three models. Earlier Bryan Williams had pointed out “third generation CMSs” support active learning and that Moodle was based on the constructivist learning theory. She gave three examples of how Blackboard supported constructivist learning, problem center learning, and developing a community of learners.

Comment: This is the first presentation I have heard of a course management system where learning theories and models of learning were explicitly discussed. Constructivist learning is very important to K-12 and has gained a reputation among community and small private colleges as a more effective approach to learning than “read, assess, and grade.” Privately I suggested to the Blackboard team that they could benefit higher education by providing specific case examples—numbers—that supported the assertions of improved learning. Ms. Anderson was encouraged to provide that “matrix” of theories and models to CMS capabilities that would improve the utilization of CMS features.⁹

ANGEL

Christopher Clapp and Cheryl Steele presented the ANGEL system. They presented various content, assessments, and communication features. Clapp accurately pointed out that current CMS tend to support the same features; he commented that as CMS mature they add features they do not have so they become full-featured systems. He commented that ANGEL has integration adaptors for most student systems. ANGEL supports interoperability of content as well.

Panel Discussion and Open Forum

Originally scheduled for 45 minutes, the open forum continued for about an hour and 30 minutes. Lack of resources was cited by the panelists for their interest in collaborating on the acquisition and support of a managed learning environment.¹⁰ Illinois Community College Board Senior Director for Instructional Technology Todd Jorns asked about the interest in consortial acquisition of instructional software. More than half of the institutions responded positively even though there is a recognized cost of transition.

Technical Support for Student Users

Several times the desire for “24/7” technical support for site administrators, instructional faculty, and students was described as important and would be a factor in selecting an

⁹ The proposed matrix was suggested by im+m’s Justin Tilton as a way to assist faculty in preparing more effective courses.

¹⁰ The term “managed learning environment” is used here as a broader term than course management system. In the United Kingdom the equivalent term is “virtual learning environment.” Neither were used in the discussions, but are used here to convey the broader scope to the reader.

Application Service Provider (ASP) as contrasted to hosting the instructional services locally.

Comment: Both Moodle and iAssessment have reported “customers”—schools, school districts, and colleges—prefer a service rather than software. This reflects the often-asked question “What skills and staff are required to support the managed learning environment?” Both Rio Salado College and Coastline Community College offer extended hours of technical support for users. Rio Salado provides this service from 7:00 a.m. until 10:00 p.m. 7 days a week.¹¹ Coastline has similar hours. They have done this to relieve instructors of the responsibility of “fixing computer problems”—a service deeply appreciated by faculty. uPortal partner Unicon, Inc. has provided 24/7 service for the Cisco Learning Academy. Unicon can provide this service for both their own Academus product and for uPortal and Sakai. Embranet provides ASP support for several learning management systems and intends to support Sakai as well.

Required Resources

The question repeated to Moodle, Desire2Learn, and ANGEL was stated as how many technical staff are required to support the managed learning environment.

Comment: The question is not how many people, but rather what skills are required to support the newer information technologies. The uPortal experience may be relevant. The number varies from 1.5—Denison College—where one person is proficient in all of the Web technologies, to a large number. The pilot implementation of the electronic transcript project for the California Community Colleges revealed the most difficult issue is compatible releases of the operating system (Linux), application server (Tomcat), and Web server (Apache) and other software components (such as Xalan from the Apache Software foundation). Over the past three years these products have undergone continual change. An application often depends upon the availability of a capability in related software. When the application appears to fail, it is often the configuration of one of the other technologies that is failing. Current detailed knowledge of each of these is required to ensure operability. Training and immediate technical support—available from both vendors and software support firms—ameliorates this problem. One suggestion is to create “Quick start” versions that include all of the software components, including the operating system, and install the application on a separate computer. While this eliminates one set of problems, it creates both an integration and maintenance problem. In California the consultant concluded that transcripts should be outsourced as a service. Since all of the major applications, including the managed learning environment, depend upon Web services technologies, this recommendation is the same as saying all information technology applications should be outsourced. Having the appropriate set of skills—as contrasted to numbers of staff—is a general institutional problem and should be approached from that perspective.

¹¹ This schedule may be further enhanced since this observation in 2001.

Hosted MLE service is available from Sakai Commercial Affiliate EmbrNet and others as well as the software firms.

The problem of hosting some services and retaining some on campus was first addressed by eCollege. eCollege wanted a real-time exchange of data between their learning software and the campus' student information system. Although this exchange is feasible and would sharply reduce the administrative workload on campus, no leader has emerged to facilitate the cooperation necessary to achieve interoperability.¹²

Methods of Teaching and Learning

Melissa Anderson's presentation brought up the support of multiple modes of instruction. All of the software suppliers commented they now support all modes of instruction. The questions focused on activity learning, where students are given assignments and then provide some evidence of accomplishing the assignment. Activity learning appears to be supported by the four software suppliers represented at the conference.

"Portable Content"

NILRC and the Illinois community colleges have experience in using course materials created at another college.¹³ Each of the software suppliers was asked about interoperability and demonstrated the several different formats that could be "imported" into their course management system. The suppliers implied that these imports fully and accurately represented the original materials. Desire2Learn was more specific suggesting that SCORM and IMS standards should be used.

Copyright is a major issue since often faculty include materials in their on-line courses that could be considered "fair use" in a classroom, but may not comply with DCMA when placed on the Web. I mentioned that MIT's Open CourseWare initiative did have materials that had been reviewed for copyright and potentially infringing materials had been replaced. I also commented that im+m had developed a uPortal viewer for some MIT Open CourseWare content Justin Tilton believed appropriate for lower division courses. The Hewlett Foundation has funded some open courseware development at Foothill De Anza Community College District and was in discussions with Coastline Community College concerning the general education courses used for transfer to four-year universities.

ICCB's Todd Jorns commented that the Illinois community colleges had developed course materials for these courses that are available.

¹² This solution was suggested by eCollege CTO Mark Resmer and would have been based on Web Services (SOAP, XML) and the IMS data specifications.

¹³ Unlike most research universities, the community colleges generally view course authoring as "work for hire" with the intellectual property owned by the college. Telecourses are viewed a metaphor for on-line learning materials; these were developed by an institution and then licensed to others, often on the basis of course enrollment.

One of the participants identified himself with the library suggesting that incorporating library materials or references should be done by librarians, who understand the organization and methods of access to these materials.

Comment: The UK Joint Information Systems Committee has funded a number of projects to make information available from library resources and services and from digital repositories. The latest is the CREE effort led by the University of Hull.

Consortial Arrangements

A consensus emerged that a consortial arrangement could reduce the cost of licensing a commercial or implementing and supporting an open source course management system. The discussion pointed out that a consortial arrangement could also be used to reduce the cost of training, develop a support network among the [Illinois] users, and enable interoperability of content.

Introducing..... Moodle!

Moodle is distributed *free* under open source licensing. An organization has complete access to the source code and can make changes if needed. Moodle's modular design makes it easy to create new courses, adding content that will engage learners.

modular object-oriented dynamic learning environment



Moodle's intuitive interface makes it easy for instructors to create courses. Students require only basic browser skills to begin learning.

Moodle Architecture

Activities are at the heart of a course management system. Moodle was designed by an educator and computer scientist, with "social constructionist" principles in mind. "Constructionism asserts that learning is particularly effective when constructing something for others to experience. This can be anything from a spoken sentence or an internet posting, to more complex artifacts like a painting, a house or a software package.



Martin Dougiamas
Creator & Lead Developer

The concept of *social constructivism* extends the above ideas into a social group constructing things for one another, collaboratively creating a small culture of shared artifacts with shared meanings. When one is immersed within a culture like this, one is learning all the time about how to be a part of that culture, on many levels."

Promoting Learner Involvement

"A constructivist perspective views learners as actively engaged in making meaning, and teaching with that approach looks for what students can analyze, investigate, collaborate, share, build and generate based on what they already know, rather than what facts, skills, and processes they can parrot. Some of the tenets of constructivism in pedagogical terms include:"



- Students come to class with an established world-view, formed by years of prior experience and learning.
- Even as it evolves, a student's world-view filters all experiences and affects their interpretations of observations.
- For students to change their world-view requires work.
- Students learn from each other as well as the teacher.
- Students learn better by doing.
- Allowing and creating opportunities for all to have a voice promotes the construction of new ideas.

Getting Started

Moodle has a "modular" design so adding the Activities that form a course is a simple process:

1. Course creation privileges are assigned to the teacher.
2. Select from one of three course layout; **Topic**, **Weekly** or **Social** format.
3. Click "Turn editing on" within the blank course template.
4. Create the course!



With editing turned on, the course creator can now **Add** activities from an intuitive drop-down list of module plug-in features.



Course Management Features - Modules

Assignment

Used to assign online or offline tasks; learners can submit tasks in any file format (e.g. MS Office, PDF, image, a/v etc.).



Property screens guide instructor through setup when creating a new Assignment.

Chat

Allows real-time synchronous communication by learners.

Choice

Instructors create a question and a number of choices for learners; results are posted for learners to view. Use this module to do quick surveys on subject matter.

Assignment activity can require the learner to upload a completed project.

Dialogue

Allows for one-to-one asynchronous message exchange between instructor and learner, or learner to learner.

Course Management Features - Modules

Forums

Threaded discussion boards for asynchronous group exchange on shared subject matter. Participation in forums can be an integral part of the learning experience, helping students define and evolve their understanding of subject matter.



Students can Rate a forum post, based on Scales set up by the course creator

Course Management Features - Modules

Glossary

Create a glossary of terms used in a course. Has display format options including entry list, encyclopedia, FAQ, dictionary style and more.

Journal

Learners reflect, record and revise ideas.

Label

Add descriptions with images in any area of the course homepage.

Lesson

Allows instructor to create and manage a set of linked "Pages". Each page can end with a question. The student chooses one answer from a set of answers and either goes forward, backward or stays in the same place in the lesson.

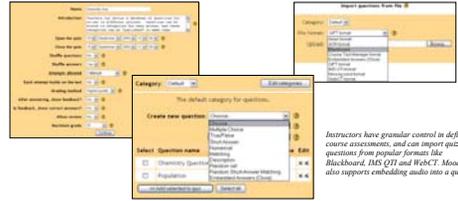


Glossary terms appear in highlight within all activity resources. Moodle includes its own site search engine.

Course Management Features - Modules

Quiz

Create all the familiar forms of assessment including true-false, multiple choice, short answer, matching question, random questions, numerical questions, embedded answer questions with descriptive text and graphics.



Instructors have granular control in defining course assessments, and can import quiz questions from popular formats like Blackboard, IIS (IT) and WebCT. Moodle also supports embedding audio into a quiz.

Course Management Features - Modules

Resource

The primary tool for bringing content into a course; may be plain text, uploaded files, links to the web, Wiki or Rich Text (Moodle has built-in text editors) or a bibliography type reference.

Survey

This module aids an instructor in making online classes more effective by offering a variety of surveys (COLLES, ATTLS), including critical incident sampling.

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.



Moodle supports adding math expressions to a Resource activity, using the built-in HTML editor.

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 Features - Participants

One click and you can view activity from all participants enrolled in the course. Learners create a personal profile that can include a picture, helping connect students socially in the online learning community.



Learners complete a personal profile page that helps build the online learning community. Adding a picture and details in the profile creates a social connection.

Learner Management Features - 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.



Creating distinct group names is easy. Learners and teachers are assigned to a group by clicking a single button.

Learner Management Features - 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 Features - 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), and indicating whether the learner was demonstrating one of three characteristics in the activity.

- Shows mostly CONNECTED knowing.
- Shows mostly SEPARATE knowing.
- Equally separate and connected.



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 Features - Grades

Viewing Assignment and Journal submissions, and adding Grades and comments, are done from a single page that displays all enrolled students.



Managing student submissions are done from one central screen. This cuts down on the time it takes to access many students work.



Learner Management Features - 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.



Name	Size	Modified	Action
Backup-2004-04-10	1.1 Mb	7 Apr 2004, 08:28 AM	View Log Restore Restore
Backup-2004-04-10	1.1 Mb	9 Apr 2004, 02:49 PM	View Log Restore Restore

Restoring an existing course or Uploading a file archive from storage is accomplished with a single mouse click. Moodle makes it easy to reuse and share courses with other teachers. Backup can include or exclude student files and course data.



Learner Management Features - 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.



Grades can be downloaded in Excel or plain text for inclusion into an existing electronic gradebook.



Learner Management Features - Grades

Viewing Assignment and Journal submissions, and adding Grades and comments, are done from a single page that displays all enrolled students.

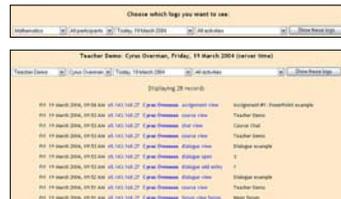


Managing student submissions are done from one central screen. This cuts down on the time it takes to access many students work.



Learner Management Features - Logs

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



Logs pin-point where a student is within coursework. Easily locate specific course, student, date and module activity access.



Who is Using Moodle?

Over 1650 organizations in 92 countries had registered Moodle sites by August 2004 (<http://moodle.org/sites>). This number is growing by about 10% each month as educators and trainers learn the value of implementing open source Moodle.

Moodle is an ideal online learning solution for:

- K-12 Schools
- Colleges
- Universities
- Governmental Agencies
- Businesses
- Trade Associations
- Hospitals
- Libraries
- Employment Agencies

"My first live class just ended and it was a tremendous success, both in the behavior of the program and the quality and longevity of my participants. Moodle has been terrific to work with. Somehow it doesn't seem to be as tedious to work with as other courseware programs such as Blackboard and WebCT."

- Paula Edmonson, Trainer



Who Will Help You Use Moodle?

Hundreds of knowledgeable open-source users have joined with Moodle developers in a community of learners. [Meet a few new friends!](#)



Why Not Try Moodle Right Now?

If your organization is ready or needs to support an online learning population, here is an opportunity to take your research to the next level. These Moodle sites are open for you to explore either as a learner, or teacher with course creator privileges.



- Using Moodle: <http://moodle.org/course/category.php?id=1>
- Moodle For Language Teaching: <http://moodle.org/course/category.php?id=1>
- What is Open Source Software: <http://moodle.org/course/category.php?id=2>
- Teachers Playground Demo: <http://moodle.org/course/category.php?id=2>
- Teachers Playground Demo: <http://vaedu1-k12.us>



Developer Team Support: <http://partners.moodle.com>



The Sakai Project and Partnership

Jim Farmer

Sakai Community Liaison

Network of Illinois Learning Resources
in Community Colleges

August 6, 2004, Champaign, Illinois

The Sakai Vision

We will create an open-source Collaboration and Learning management system which is competitive with best offerings,

BUT at the same time create a **framework, market, clearinghouse, cadre of skilled programmers, documentation and set of community practices** necessary to enable many organizations to focus their energy in developing capabilities/tools which advance the pedagogy and effectiveness of technology-enhanced teaching, learning, research and collaboration
...rather than each just building another threaded discussion tool as an LMS.

Sakai Board, June 23, 2004



Sakai: So Whats New?

- New approach to Portal Technology: Application Development Platform
- New Approach to web application development: Code to work on desktop (someday)
- New approach to Learning Management Systems: Not just for classes any more – research, collaboration

And, most importantly today:

- New form of development: “Community Source”



Sakai 1.0 Contents (12/04)

- Complete Framework including JSF to Portlet Rendering
All of the CHEF tools and services in legacy mode
 - Three new TPP compliant tools: Navigo (Assessment), and Gradebook
 - Complete Portability Profile “book”
 - Ready to deploy as LMS (looks a lot like CHEF 1.2 plus)
 - Ready to use as a development platform with rich sample applications
 - Implementation of Sakai APIs, and MIT OSID plug-ins
- Goal:** Deployable in production at UM, pilot at the other three universities.



Sakai 1.0 Tools and Features

- | | |
|---|---|
| <ul style="list-style-type: none"> • Worksite Info • Schedule • Announcements • Resources • Assignments • Discussion • Dropbox • Chat • Web Content • News • Email Archive | <ul style="list-style-type: none"> • My Workspace • Users Present • Tear off windows • Multiple roles, permissions • Notification, preferences • Browsable sites list • Membership (self join sites) • Webdav to Resources • Public view • Message of the Day |
|---|---|



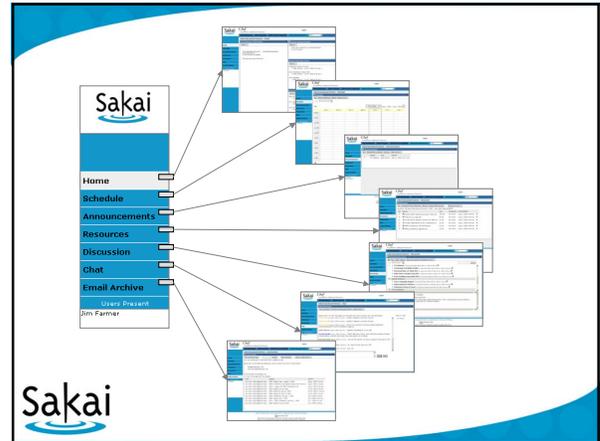
Sakai 2.0 (May 2005)

- Significant replacement of legacy tools
 - TPP Compliant, using OKI and Sakai APIs
 - Tools will be richer and deeper
 - Each core institution will focus on a set of tools to develop
- SEPP partners will be involved in the new tool development based on ability and commitment.
- Organizational structures evolve to scale participation while maintaining core development focus



Sakai Partners 2005

- Sakai Project
- Sakai Partners
 - Foothill DeAnza authoring tool
 - University of California Berkeley grade book
- Sakai related
 - Open Source Portfolio Initiative
 - JISC library access portlets
 - University of Nagoya multimedia “immersion”





The end

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Publisher's Note

- Web Services is not within the **current** scope of the Sakai Project. Chief Architect Charles Severance expects the use of Web Services in Sakai software later this year.
- uPortal is a project of the JA-SIG Collaborative led by Carl Jacobson at the University of Delaware and funded, in part, from the Sakai Project.
- im+m has contributed to uPortal, and the Meteor and California Electronic Transcript Project prototypes referenced in this presentation.
- The author is Chairman of the Board of im+m and Sigma Systems Inc., contracted by the University of Michigan for the Sakai Educational Partners Program, and volunteers as uPortal Project Administrator.



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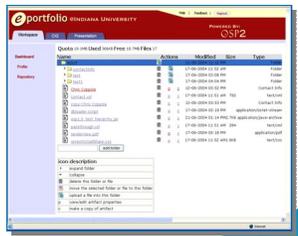
OSP 2.0 (Spring 2005)

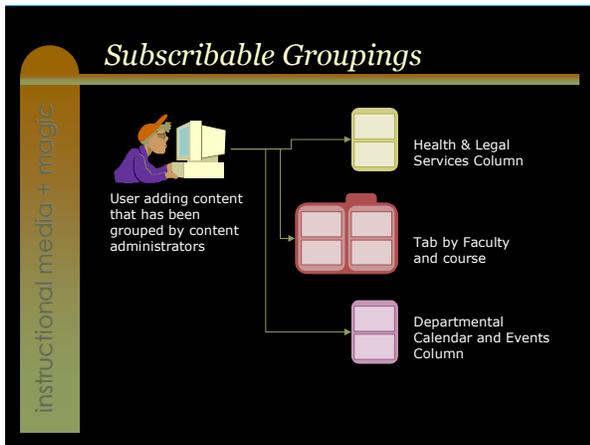
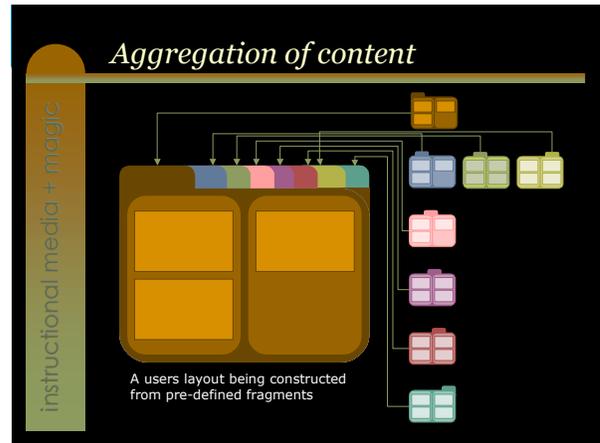
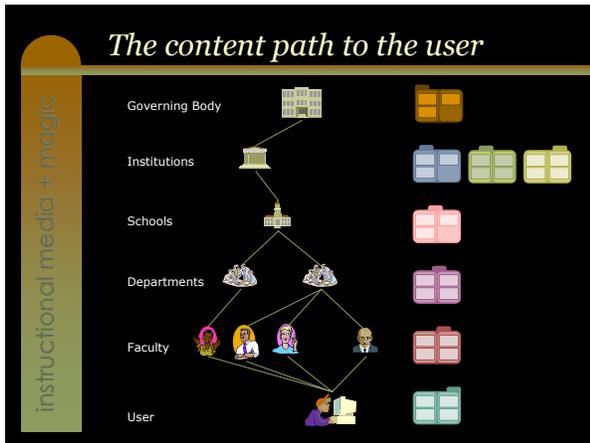
- Funded project
 - Dedicated resources
 - Committed dates
 - Small, traditional development team
- First public release this July
- Transparency going forward
- Personal workspace
 - Dashboard
 - Repository, profile, etc.
- Common Interest Groups
 - Scaffolding
 - Resources
 - Interaction tools
 - Assessment tools
 - Presentation req's




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- Funded project
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 - Presentation req's



Desire2Learn  

D2L Overview and Demonstration

John Baker
President and CEO
John@Desire2Learn.com

August 6, 2004

Desire2Learn  

About D2L

Desire2Learn is recognized as a world leader with the most complete and adaptable suite of enterprise software products and services to power your learning infrastructure.



* **Only** fully integrated standards-based **Learning Object Repository** and providing SCORM 1.2 RTE 3 Certified with Reporting

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Desire2Learn  

Philosophy

Unlike many of our competitors, we believe an eLearning platform should not dictate your approach to teaching and learning. It should be tailored to your needs, desired look and feel, philosophy, vision, brand, and pedagogical approach.

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Roots

Our learning platform is the result of five years of intense R&D and close work with our academic clients, including the University of Guelph (Ontario's largest DE program), University of Wisconsin System, Minnesota States Colleges and Universities, Florida Distance Learning Consortium, and many other clients worldwide.

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Meeting your consortium requirements

- A survey of NILRC community college members revealed that all of us are facing cost increases for course management software. Some of the price increases are as much as 25%. These increases have placed a substantial burden on budgets already facing decreases from the state while also facing record enrollments. ... We realize that changing [CMS] systems appears daunting, but we believe that we can gain considerably more control over costs and content and reap enormous benefits down the road.
- At D2L we can help:
 - We have not raised our pricing in 5 years
 - In a consortium solution, you can reduce cost by aggregating licensing, support, hosting, etc., without giving up autonomy
 - We can help you manage rapid enrolment growth through our leading enterprise e-Learning system that currently helps support many other consortiums
 - Use of our LOR to assist in the reduction of content creation and management costs
 - And in many other ways...

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Desire2Learn  

Meeting your consortium requirements

- The advantages, of a common, open source platform, aside from cost savings, are numerous. Courses could be easily ported from one institution to another, students would have a common interface, training for students and faculty would be standardized and the learning curve for students using courses at different locations would be considerably reduced.
- At D2L we can help:
 - Proven track record with consortiums using a common platform without losing local autonomy
 - Our clients found dramatic improvements in student satisfaction and reduces training costs
 - LOR allows sharing of courses, modules, LOs, digital assets, and more, even if all the colleges (around the world) can not switch at the same time or want to use the same platform
 - We would also allow you to handle more collaboration between the different institutions and not just provide a way to transfer courses
 - Our platform is built on open standards and architecture providing easy integration with multiple SIS, authentication systems, etc. for a much lower total cost of ownership compared to any of our competitors (including open source options)

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D2L Advantage

- Complete flexibility, modularity, and customizability
 - Unlimited user role and organization unit definition
 - 100% branded to your organization, individual system members, or even specific programs
- Intelligent user-driven interface preferences and accessibility
- Powerful and diverse collaboration tools
- Students more connected to their peers and instructors to promote a greater sense of community
- All tools instantly interlinked using D2L Quicklinks
- Simple, one-click editing of content and most interfaces, user-centered design – very intuitive system requiring less training and support
- Lower total cost of ownership than other platforms
- Extensive Client-driven R&D
- Support for Standards

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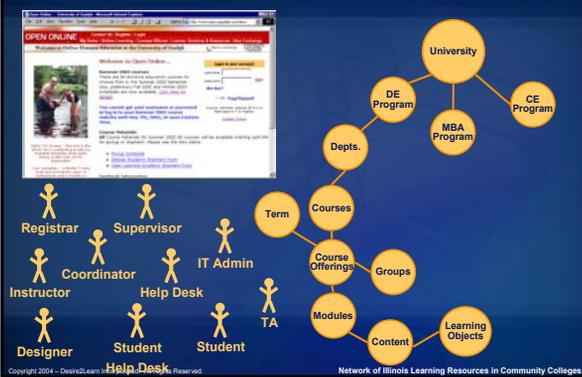
Standards Commitment

- SCORM 1.2 RTE3 Certified with Reporting**
 - 1st Academic LMS to be Certified
 - Only major academic LMS provider to have **full support for SCORM and SCORM reporting** as part core platform and not as a plug-in
 - Plans for SCORM 2004 (1.3) support for end of April
- Standards-based Learning Object Repository
 - 1st and **only** major LMS provider with a standards-based LOR.
 - R&D group called SCO-RE – Sharable Content Object Repository for Education with members including UWS, MnSCU, Academic ADL co-Lab, FDLC, SREB, MSDE, and others
 - Other R&D initiatives include: LORNet, CANARIE, Learning Design
- Support for IMS Course Packaging (IMS-CP) and IMS-QTI
- Integration standards (e.g. IMS Enterprise)
- Growing support for many other standards (e.g. workflow, DRM, calendar)

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Break down course boundaries

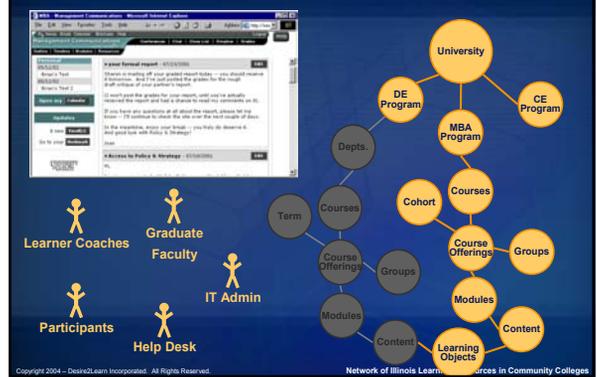


The diagram illustrates a hierarchical structure of course boundaries. At the top is 'University', which branches into 'DE Program', 'MBA Program', and 'CE Program'. 'DE Program' further branches into 'Depts.' and 'Courses'. 'Courses' branches into 'Term' and 'Course Offerings'. 'Term' branches into 'Instructor', 'Supervisor', 'Coordinator', 'Registrar', 'Designer', and 'Student'. 'Course Offerings' branches into 'Groups' and 'Modules'. 'Modules' branches into 'Content' and 'Learning Objects'. 'Content' branches into 'Help Desk' and 'TA'. 'Learning Objects' branches into 'Help Desk' and 'Student'.

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Taking pedagogy into consideration

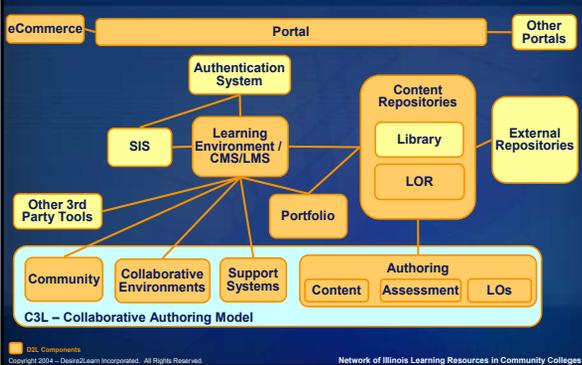


The diagram illustrates a hierarchical structure of pedagogy. At the top is 'University', which branches into 'DE Program', 'MBA Program', and 'CE Program'. 'DE Program' further branches into 'Depts.' and 'Courses'. 'Courses' branches into 'Term' and 'Course Offerings'. 'Term' branches into 'Learner Coaches', 'Graduate Faculty', 'Participants', and 'Help Desk'. 'Course Offerings' branches into 'Groups' and 'Modules'. 'Groups' branches into 'Cohort' and 'Course Offerings'. 'Modules' branches into 'Content' and 'Learning Objects'. 'Content' branches into 'Help Desk' and 'Student'.

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Putting the enterprise system together



The diagram shows a central 'Learning Environment / CMS/LMS' box. Above it are 'Authentication System' and 'SIS'. To the left are 'eCommerce', 'Portal', and 'Other 3rd Party Tools'. To the right are 'Content Repositories', 'Library', 'LOR', and 'External Repositories'. Below the central box are 'Community', 'Collaborative Environments', 'Support Systems', 'Portfolio', 'Content', 'Authoring', 'Assessment', and 'LOs'. A box at the bottom left is labeled 'C3L – Collaborative Authoring Model'.

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Integration

- D2L build special **middleware** for integration with SISs, and other enterprise systems
 - Real-time, batch transfer, or snap-shot methods
 - IMS Enterprise, XML, ODBC, API, web services, text files, or other methods
 - Filter can run jobs, merge datasets, handle rules for integration
 - Minimal 3rd party involvement + out-of-the-box tools = reduced costs and time to completion
- Straight-forward Authentication integration (e.g. LDAP, Active Directory, local, custom) and central authentication provides logical method for single sign-on
- Integration examples:
 - University of Wisconsin System – Integrating 16 different SIS systems (most PeopleSoft), and central authentication
 - University of West Florida – Integration with SIS and Active Directory remotely using single sign-on
 - Maryland State School Systems – In the process of setting up integration using SIF
 - Dozens of other large scale integration examples



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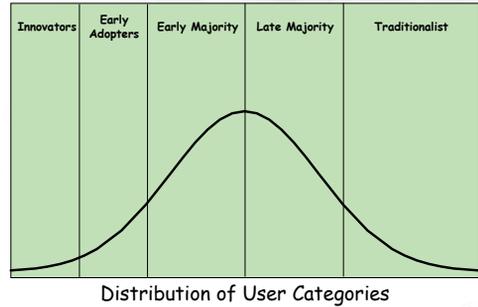
Course Management Software Summit
Parkland College

Friday, August 6th, 2004

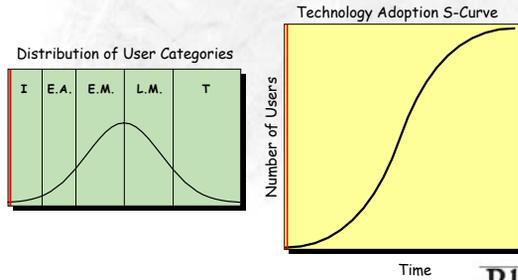
Melissa Anderson and Brian McHugh



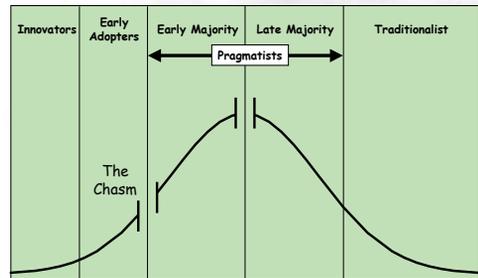
Diffusion of Innovations



User Categories and Adoption Rates



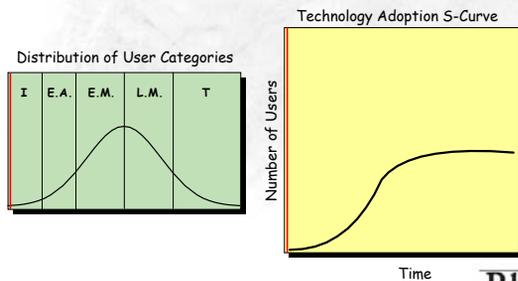
Diffusion of Innovations



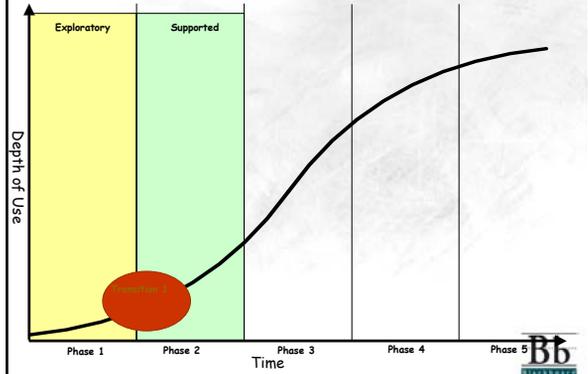
- Trialability
- Observability
- Relative advantage
- Compatibility
- Complexity

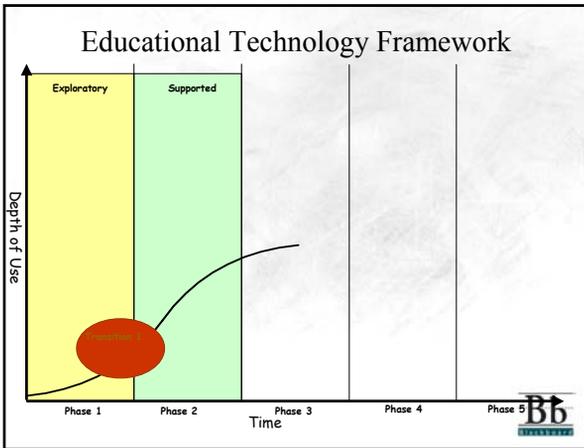


User Categories and Adoption Rates



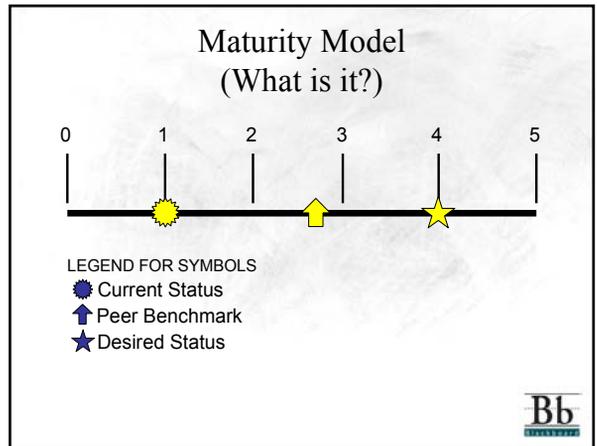
Educational Technology Framework





- ### Operational Maturity
- 12 Point Transition Assessment
1. Technical Infrastructure
 2. System administration and operations management
 3. User support services
 4. Training services
 5. Student experience
 6. Integration with enterprise architecture
 7. Sponsorship
 8. Customization management
 9. Administrative processes
 10. Human resource management
 11. Marketing and promotion
 12. Vendor relationships
- Bb

- ### Operational Maturity
- Technical Infrastructure
 - System Administration & Operational Controls
 - Support, Training, & Marketing
 - Integration & Customization
 - User Experience
 - Budget & Sponsorship
 - Strategic Relationships
- Bb

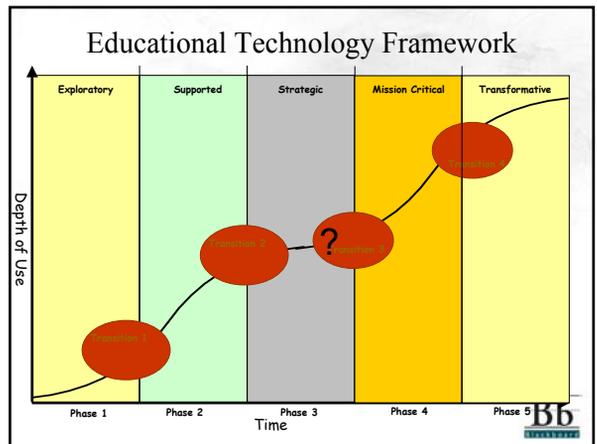


A Formula for Success!

The Bb Academic Suite

+ Operational Maturity = Fantastic Adoption

Bb



A Formula for Success!



The Bb
Academic Suite

Operational
+ Maturity = Fantastic
Adoption

Strategic
+ Implementation = Transformative
Learning
Environment



Transformative Goals:

- Enable Distance Learning
- Improve Instruction
- Improve Student Retention
- Reduction Of Time To Graduation
- Reduction Of Brick And Mortar Costs
- Maintain Contact With Alumni
- Use Of Outcomes-Based Assessment
- Support Community Outreach & Ext Programs



Questions?





Dispelling the Limitation Myth: Boundless Opportunities for Teaching & Learning with Blackboard

Melissa Anderson
Strategic Advisor, Blackboard, Inc.
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The Idea

- ▶ The Myth
- ▶ The Reality
- ▶ Uncovering Learning Theories & Communities of Learners
- ▶ The Blackboard Platform
- ▶ Dispelling the Myth Through Three Examples
- ▶ Dialogue



The Myth

Proprietary educational software, including Blackboard software, limits how an instructor can teach and therefore limits opportunities for learning.



The Reality

Blackboard software provides a platform on which instructors can build instruction using any learning theory and/or model for teaching & learning because it is *flexible, customizable* and *centered on enhancing student achievement*.



Uncovering Learning Theories

Most instructors look to utilize one or more learning theories and/or models for teaching in their courses.

Learning theories

- ✓ Constructivism/Social Learning Theory
- ✓ Behaviorism
- ✓ Cognitivism

Models for Teaching

- ✓ Case-study Method
- ✓ Problem-centered Approach
- ✓ Active Learning
- ✓ Collaborative Learning



Uncovering Communities

Most institutions are beginning to realize the power behind fostering a community of learners because it provides students with an opportunity to:

- ✓ Connect in-class and out-of-class activities to their larger academic experience.
- ✓ Learn from one another in a collaborative and supportive environment.
- ✓ Situate their learning in a real, practical setting.
- ✓ Develop strong ties to the institution and its surrounding community.

The Blackboard Platform



Blackboard provides the platform for boundless teaching & learning as well as the growth of a community of learners by:

- ✓ **Staying focused** on the most important goal of higher education: improving student achievement.
- ✓ **Providing access to our APIs** so that an institution can extend the platform to meet its specific needs.
- ✓ Consistently releasing features, functions and a technical architecture that **meet the needs of our clients**.
- ✓ **Extending our relationships** with key organizations, vendors and services in the industry.
- ✓ Providing tools for our clients to **grow the community of practice**.

Dispelling the Myth



Example #1: Constructivist Learning

- ✓ Utilize the Discussion Board along with the Advanced Discussions building block for student-centered discovery, research and reflection.
- ✓ Facilitate synchronous discussion in the Virtual Classroom- students share documents, web sites and ideas in text/on the whiteboard.
- ✓ Encourage student collaboration through the use of ePortfolios- students share the progress of their learning for colleague commenting.
- ✓ Develop a customized module that will allow students to grade each other and themselves using our open APIs.

Dispelling the Myth



Example #2: Problem-centered Method

- ✓ Organize the course around the problem and/or stages of the problem- selectively reveal stages as the course progresses.
- ✓ Present and share a resource library of materials (or encourage students to build one) that is searchable based on customized keywords.
- ✓ Hold office hours in the lightweight chat space to answer questions and post transcripts for other students to review.
- ✓ Give students access to a blog or wiki to share collective progress through one of our building block partners.

Dispelling the Myth



Example #3: Fostering a Community of Learners

- ✓ Create a personalized, role-based experience for students upon entry into the online academic space.
- ✓ Foster the online presence of community sub-groups, like organizations or working groups.
- ✓ Allow key participants to directly manage their information and facilitate associated collaborative activities- encourage the delegation of responsibilities.
- ✓ Build a learning object catalog for all members of the community to contribute to and utilize.

Dialogue



What does this mean for you?

Melissa Anderson
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ANGEL: An Open LMS

Network of Illinois Learning Resources in Community Colleges (NILRC)

August 6, 2004

CyberLearning Labs, Inc.
Christopher Clapp, President and CEO
Cheryl Steele, Account Manager



Topics

- Background on CLL and ANGEL
 - What makes ANGEL different?
- ANGEL Highlight Demonstration
 - Reusing your existing course
 - Building content quickly
 - Working with students and exceptions
- ANGEL Relative to Open/Community Source
- Conclusion



Background

- 1996 Roots
 - Distance learning initiative at IUPUI
 - Result: *Oncourse* the first enterprise LMS
- July 2000 CyberLearning Labs, Inc.
 - ANGEL: A New Global Environment for Learning
 - Initiated marketing mid-2001



ANGEL Vision

Make technology a practical tool for teaching and learning

- Provide tools that assist instructors
 - Save time
 - Produce more positive outcomes
- In a complete, enterprise system
 - Flexible and open
 - Exceptional support and partnership
 - Sustainable TCO



ANGEL Users - Highlights

- Higher education
 - Large: Penn State, Michigan State, St. Pete
 - Mid: 7 SUNY Campuses (5 community colleges)
 - Small: The Juilliard, Rose-Hulman, Westminster
- K12 Systems, Districts and Schools
 - Indianapolis, Louisville, Nebraska, SW Virginia
- Corporate & Not-for-Profit Organizations
 - TIAA-CREF, Education Testing Service
 - T-Mobile USA, Fletcher Allen Health Care



ANGEL Overview Demonstration

- Reusing your existing course
 - Course import wizard
- Building content quickly
 - HTML Editor with Math and Macros
- Working with students & exceptions
 - Learner Profile agent
 - WhoDunIt agent



Open Source Motivations Alternative to Commercial Apps¹

- Control: Innovate independently
 - Want new capability? Add it.
 - Goal: open, extensible, scalable
- Reduce Total Cost of Ownership (TCO)
 - License fees estimated 20-25%²
 - Aggregate proprietary investment
 - Bet: additional staff time < license fees



ANGEL[™] COURSE
MANAGEMENT
SYSTEM

The 3rd Alternative: ANGEL

- Control
 - Add it. Components, APIs, DB access
 - Reality: open, extensible, scalable
- Reduce Total Cost of Ownership (TCO)
 - Reasonable license fees, low entry points
 - Low cost system configuration
 - Low cost App Administration (staff time)!



ANGEL[™] COURSE
MANAGEMENT
SYSTEM

Open/Community Source Risks³

- Complex software
 - Coordination, processes, execution
 - Enterprise app with non-technical users
- Coordinating Mechanisms ("aggregate")
 - Aggregate capital vs. will; new territory
 - Benefits & mission needed to align organization(s)
- Collective Action ("synchronize")



ANGEL[™] COURSE
MANAGEMENT
SYSTEM

Conclusion: Why ANGEL?

- ANGEL instructor tools
 - Save time
 - Produce more positive outcomes
- In a complete, enterprise system
 - Flexible and open
 - Exceptional support and partnership
 - Sustainable TCO

*Best of Open Source & Commercial Apps
without the Risks*



ANGEL[™] COURSE
MANAGEMENT
SYSTEM

Reference Notes

1. "Learning Management Systems, Are We There Yet, A Conversation with Ira Fuchs," *Syllabus*, July/August 2004
2. Michael Arnone, "Course-Management Outfits Still Seek Elusive Profits," *Chronicle of Higher Education*, July 12, 2002
3. Brad Wheeler, "Open Source 2007," *EDUCAUSE Review*, July/August 2004



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