Forum / Tribune

Evolving from Course-Centric to Learning-Centric: Portfolios, Wikis, and Social Learning

Deborah Everhart, Washington D.C.

ABSTRACT

Teaching and learning strategies for using course management systems have evolved from basic "fill in the blank" models to interactive designs that encourage multi-formatted individual contributions and collaborative forms of learning. In keeping with the participatory development of online resources, web-based courses are shifting from traditional "authoritarian" faculty control to inclusion of student-produced course materials and student-directed learning activities. This paper provides historical context, a depiction of the stages in the evolution from course-centric to learning-centric, a glimpse into the future, and seven key strategies for facilitating social learning and the ways in which they help engage learners with each other.

RÉSUMÉ

Les stratégies d'enseignement et d'apprentissage pour l'utilisation des systèmes de gestion de cours ont évoluées de modèles de base « exercices à trous » à des conceptions interactives encourageant les contributions individuelles à multi-formats et les formes collaboratives d'apprentissage. Tout en restant fidèle à une conception collaborative des ressources en ligne, les cours électroniques changent d'un contrôle traditionnel « autoritaire » par le corps professoral à une inclusion de matériaux de cours produits par des étudiants et aux activités d'apprentissage dirigées par des étudiants. Cet article offre un contexte historique, une description des étapes où l'orientation de cours évolue vers l'orientation d'apprentissage, un aperçu dans l'avenir, et sept stratégies-clés pour faciliter l'apprentissage social et les façons

par lesquelles celles-ci peuvent aider
à faire collaborer les apprenants
entre eux.

BEFORE COURSE MANAGEMENT SYSTEMS

A brief look at how far teaching tools and methods have progressed in the past decade provides perspective for the trajectory of evolving course structures. It is easy to forget how cumbersome many teaching tasks were until very recently. Inefficiencies led to lost productivity, miscommunications, and limited opportunities for engagement. Before course management systems, distribution of course materials was a manual process, physically limited by textbook availability, shared access to books and periodicals in the library, and the unrealistic expectation that students wouldn't lose the syllabus and handouts. Communication was primarily limited to the face-to-face classroom.

Faculty-student interaction has always been a valuable component of the learning process, but before online communications, faculty-student knowledge sharing outside the classroom was limited to office hours and the personal-mentoring opportunities offered to a fortunate few. Face-to-face mentoring is not a highly scalable model, as the Oxbridge colleges have demonstrated for centuries; faculty schedules and competing priorities make faculty feedback a limited commodity. Higher enrolments and the need for lifelong learning make the limited scalability of faculty attention even more pronounced.

Student collaboration and group work, whether sanctioned or not, is integral to most forms of learning. When faculty-student interaction is lacking, student-to-student interaction can help compensate (Anderson, 2003). However, without online communications, face-to-face study groups and collaboration opportunities were difficult to organize and often not impromptu enough to meet students' immediate needs for feedback or guidance (at 1:00 a.m. or at a critical juncture in writing an essay). In effect, student knowledge creation before online collaboration was often solitary, unverified, and measured by a grade (deferred feedback) that was returned to the student weeks after the test, essay, or other summative assignment had faded from memory.

BETTER TEACHING AND LEARNING MODELS

Although it may seem obvious with 20/20 hindsight that these practices demonstrated gaping shortcomings in pedagogical methods, the pace of change was very slow. Most students passively consumed the content of lecture

courses, only a few received the benefits of faculty mentoring, and rote learning was unfortunately common. Thus, as teaching models evolve toward more learning-centric approaches, most students need to learn how to learn, that is, to move away from dependent, passive behaviour toward active, self-directed learning (Weimer, 2002). In tandem, most faculty need to learn new forms of pedagogy that recommend greater instructor-student contact, collaboration among students, active learning, prompt feedback, and the encouragement of diverse ways of learning (Chickering & Ehrmann, 1996).

Course management system (CMS) tools provide opportunities for evolving pedagogy. Recent studies have demonstrated that these tools have had significant positive impacts on teaching and learning. In the *ECAR Study of Students and Information Technology* (Caruso & Kvavik, 2005), two key findings stood out: "Of the 72 percent of students who report using a course management system (CMS), more than 75 percent report a positive or very positive experience with it" and "Students report that using a CMS improves their learning." Furthermore, students recognize the social learning opportunities afforded by a CMS. As one student observed, "The discussion in the CMS can be a rich discussion. That way you can use resources to their fullest extent by the sharing of ideas. It helps more people out of the unparticipating shell" (Caruso & Kvavik, 2005). Students may of course be hindered by faculty's ineffective use of a CMS. Fortunately, many faculty use the task of putting course materials online as an opportunity to evaluate their teaching methods, and most institutions have academic technology-support organizations that encourage this effort.

Some pedagogical improvements are either impossible to implement face-to-face or are significantly better online. A recent study of exemplary instructors examined a number of ways in which online environments support the Sloan-C Pillar of Quality for Learning Effectiveness (Collins-Brown, 2006; Moore, 2005). In this study, two aspects of teaching and learning were found to be more effective online: interaction and learner-centredness (Collins-Brown, 2006). Faculty members documented "discussions showing deeper levels of critical thinking" and "higher levels of participation . . . above and beyond what is required" (Collins-Brown, 2006). They also used the flexibility of the online environment to structure learner-centred materials and activities in ways that are counter to the traditional lock-step approach. One instructor explained that "students decide what questions to ask, students decide what discussions to participate in, . . . students decide what topics to research, students decide what level of achievement to attain," with the result that students "show appreciation for more responsibility for their learning" (Collins-Brown, 2006). The faculty in this study provided numerous examples of how a CMS, when used appropriately, can surpass face-

to-face classrooms in providing learning experiences that are "social, active, contextual, engaging, and student-owned" (Carmean & Haefner, 2002. p. 33).

FLEXIBLE COURSE CONTEXTS AND COMMUNICATION TOOLS

Better teaching and learning models applied through a CMS followed the curve of broader social and technological changes in the late 1990s. The wide adoption of email as a communication method, followed by the content build-out of the web, rapidly changed perceptions of how information could be disseminated. The CMS was a logical outgrowth of the desire to use these new technologies as tools for courses. The "tool" metaphor is appropriate because the primary orientation of early CMS use was not toward creativity, collaboration, or knowledge generation but rather toward solving some fundamental teaching problems, such as announcing that there would be no class on Thursday or putting an end to the lost syllabus problem. Basic, unreflective uses of a CMS were also tool-like in keeping with the metaphor that if you give a person a hammer, everything looks like a nail. If the CMS course shell provides empty content areas for course documents, information, communication, and syllabus, the path of least resistance is simply to fill in the suggested areas. Accidental pedagogy resulting from this easy adoption of a CMS is not surprising, especially given that most faculty members do not have any formal pedagogical training.

Even accidental pedagogy has its benefits, though. CMS use has greatly improved the efficiency of managing course materials and activities, increasing productivity and allowing faculty to communicate with students more easily. The online course shell provides a flexible context in which course materials are always available anywhere. This simple fact can help increase students' time on task by reducing the "administrivia" of participating in a course.

And even the most basic uses of CMS communication tools are an improvement over previous very limited forms of communication among faculty and students. Simple course email allows faculty to push information out to students, reduces miscommunications, and increases faculty-student connections. From this logical starting point, "the amount of contact that faculty feel the CMS provides increases as their skill level in using the CMS increases" (Morgan, 2003, p.). Deeper adoption of CMS generally involves using communication tools that include students, with noticeable benefits. Students are finding their voices, leaving their passive consumer roles, and actively engaging in discussion forums, chat, and other student-to-student knowledge sharing activities.

The Course Evolves into a Collaborative Learning Environment

Perhaps the best examples of widely used tools that contribute to social learning are discussion forums and group tools. In both cases, the ease of use of the tools and their obvious purposes allow faculty and students to benefit from them without significant pedagogical analysis or training.

Discussion forums conveniently allow faculty and students to engage in a meaningful exchange outside of class time. Most faculty members immediately realize the benefits of supplementing class discussions with online discussions, and many students appreciate the opportunity to compose their responses rather than answer on-the-spot in class. When students start reading each other's postings, cross-fertilization of ideas increases, to the point where it often becomes difficult to determine the authorship of an idea. Individual and collaborative work blur.

In group projects, students learn co-operation and teamwork, critical life-long skills. Online tools for group file sharing and communication allow the team to work autonomously, learning from each other, until they are ready to present their work to the rest of the class. Teams are highly motivated by the fact that if they do not address critical questions in their materials and presentations, the class will be ill-prepared on their topic. Students understand the content of their group presentations more thoroughly than most other course materials, as they are driven by peer pressure. In a very real and visible way, teams take responsibility for constructing the value of the course, not only for themselves but also for their peers. The learning that takes place in group projects is highly social and interactive, transparently powered by easy-to-use online tools.

New Tools for Learning-centric Pedagogy

Web 2.0, with its social networking sites, web authoring applications, and perpetual updates, demonstrates the further evolution of online collaboration (Wikipedia, 2006). The critical mass of people actively using the web daily creates a "network effect" that increases the value of ideas distributed via the web (Varian & Shapiro, 1998). Improvements in online editing and publishing make it easy to add materials to a rapidly growing network of community resources. Blogs, for example, allow anyone to freely and easily publish their opinions, link to other sites and the blogs of others, receive notifications of others' postings, and comment on blog postings.

The quality and accuracy of materials in the global blogosphere are of course extremely uneven. "Splogs," spam blogs designed to drive traffic to advertisements, account for over half of blog sites (Mann, 2006). There is

something to be said for the guidance and controls of a course structure, especially when educational objectives are at stake. In the Web 2.0 democracy, the role of the instructor in guiding the course activities is critical because "for a purposeful educational experience there is an inherent need for an architect and facilitator to design, direct, and inform the transaction" (Garrison & Anderson, 2003, p. 29). Blogs, wikis, portfolios, and other web-based self-publication tools can be effectively combined with course permission structures, assignments, objectives, and guidelines that direct the power of community interaction.

Group wikis exemplify the next generation of team collaboration tools that can provide an effective context for learning interactions. All students in the group can easily write and post formatted content, edit or enhance the content of others, and add links, documents, and multimedia materials. As the wiki grows, a history of versions keeps track of who has made changes and allows regression to earlier versions if necessary. Pages can be linked together in any structure, like a project website. The students in the group can collaborate not only in the actual building of the wiki but also in related commentary and discussion among themselves. By sharing ideas and critiquing each other's work, students learn from each other, share expertise and perspectives, and potentially develop a much richer understanding of the materials than they would from working in isolation.

As with other group projects, team members can evaluate their own work and decide when it is ready for others to review it. Other students in the course can then provide commentary and help the group improve their work. In some cases, the participatory audience may be extended to other students at the institution who are studying the same topic, thus building connections across disciplines and adding diverse perspectives to the material. Group, course, or institutional wikis can also be published as global wikis, encouraging students to make their materials relevant and professional enough to contribute to international dialogue on the topic. Wikis allow students to author course content and even global web content in ways that were largely inaccessible prior to this easy technology.

Portfolios tend to focus more on individual learners than on teams. Students' engagement not only with the course materials but also with their own learning processes can be captured in portfolios as they collect ideas and reflect on their progress. Reflections become bits of analysis, which can in turn become seeds for larger projects. The process of accumulating and organizing portfolio materials leads students "to see education as a constant process, instead of something confined to the classroom" and makes it "much more clear they own the work" (Russell, 2005).

Social interaction makes portfolios even more powerful. As students build and reflect on their portfolios, they can share them with their peers

for review. For the same reasons that discussion forums and wikis enhance learning by providing multiple perspectives, portfolio peer reviews enhance students' own reflection processes and offer insights for improvement. Students may also build different audience perspectives into their portfolios by constructing different views: one portfolio view, organization, and set of materials can be tailored to other students in the course who will learn from the portfolio, while another can be tailored to the instructor who does a summative evaluation of the student's work in the course, and yet another can be tailored to a global audience, showcasing the student's expertise. In each case, the student learns valuable lessons by composing the contents of the portfolio and by analyzing how different presentations are appropriate for different audiences and purposes.

Portfolios can also provide repositories and structure for group work. Through an infrastructure that allows flexible permissions for file sharing and management, the group can compile a set of documents, images, presentations, and multimedia for the portfolio. Discussion of the portfolio allows the students to evaluate which materials are ready for presentation, collaboratively decide who is responsible for revisions, and organize the work into one or more presentation formats.

The advantages of using wikis and portfolios for group work and peer review are very similar in that both facilitate student collaboration around the tasks of producing materials and easily publishing them to the web. The primary differences are that wikis are generally free-form, evolving into interconnected pages to fit the materials developed, while a portfolio generally has a straightforward menu structure and that wiki authoring permissions are generally common to all participants, while the content-management infrastructure of portfolios allows for a more granular permissions structure. These tools, as well as others that are currently evolving, offer great potential for continued movement from course-centric to learning-centric, empowering students to produce course content and shape their courses to their own social learning styles.

FUTURE OPPORTUNITIES

Online tools for collaborative knowledge building will continue to evolve. As entire libraries become available on the web, fully searchable and heavily linked to a vast array of related resources, the social construction of navigation paths, shared bookmarks, and tagging systems will be increasingly critical. As everything from teenagers' blogs to the classics are tagged, linked, remixed, and republished, educational institutions, their faculty, and their communities of peers will be necessary leaders in the development of trustworthy scholarly commentaries and "folksonomies" that collaboratively cat-

egorize resources in academically useful ways. Scholars who provide reliable sets of links will be more valuable than librarians, and modular sets of well-designed learning materials will be more valuable than traditional courses. In this greatly expanded world of connected resources, we will all be learners every day, and our perspectives will naturally be learning-centric.

SEVEN STRATEGIES FOR FACILITATING SOCIAL LEARNING

The following strategies provide scaffolding for social learning, offering specific methodologies that contribute to the benefits of engaging learners with each other. They are intended to help start discussions about why and how to participate in the evolution from course-centric to learning-centric pedagogical design.

Strategy	What/How	Why
Social Learning Opportunities	Opportunities for students to communicate with each other, demonstrate their expertise, and work together for richer understanding of course materials. Group projects, wikis, portfolios, discussion forums, and other activities encourage students to interact with other students.	Engaging with other students brings diverse perspectives to the materials and provides opportunities for students to learn from each other. Social behaviours such as collaboration, competition, and peer pressure make students' engagement with the course materials more dynamic and provide additional motivations for learning.

Strategy	What/How	Why
Relevant Themes	An interesting thematic or topic-oriented structure for the social learning activities.	Themes provide a sense of the interrelationship of materials, piquing students' interest, and inviting interactive learning by prompting students to make their own connections. This simple but conceptually useful structure supplies part of the cognitive scaffolding necessary for students to build their own meaning from the course activities.
Rich Connections	Links within the course materials and to resources outside the course. Encourage students to provide links that connect one part of the course to another, to group materials, and to outside resources.	Referring to materials from other parts of the course as well as outside the course builds a rich, interactive context for understanding. Repeated contact with the connected materials, especially in light of new concepts, reinforces learning.
Critical Questions	Questions that trigger student thinking. Provide students with provocative questions that stimulate debate, then encourage them to write their own.	Challenge students to start thinking about the significance of the course materials and activities before they engage. Transform "flat" materials to be covered into "deep" materials to be actively explored.

Strategy	What/How	Why
Learning Objectives	Statements of the goals of the course as they pertain to the social learning activities. When activities are designed to help students achieve specific learning objectives, make the connections clear and explicit by stating the objectives in the guidelines for the activities.	Help students understand the relationships between course activities and learning objectives. Provide them with the opportunity to shape their interactions with one another in ways that most effectively address one or more specific learning goals. Activities that appear to be random or do not have a clear purpose are more likely to be ignored or done begrudgingly.
Diverse Activities	A variety of different types of activities that can be used to learn the course concepts and achieve the learning objectives. Encourage the use of many different types of tools: discussion forums, email, chat, text messaging, wikis, portfolios, content sharing, etc. Whenever possible, remove barriers to entry and allow students to use interactive tools and form their own groups whenever and however they find most appropriate.	Different students learn differently. Provide choices and easy access so that students can take ownership of the activities and become more engaged, constructing their own learning paths.

Strategy	What/How	Why
Prompt Feedback	Responses from peers and faculty that quickly help students shape their learning experiences. Timely feedback mechanisms should be an integral part of all social learning activities. With some tools, such as discussion boards and chat, responses are an obvious part of using the tool, but with others, such as portfolios, comments and review structures, feedback requirements may need to be more deliberately planned.	Feedback focuses students' engagement in the learning activities by requiring them to consider what they've learned. Feedback may or may not provide a specific measurement of progress, such as a grade, but it should nonetheless help recipients understand their progress.

REFERENCES

Anderson, T. (2003). Getting the mix right again: An updated and theoretical rationale for interaction. *The International Review of Research in Open and Distance Learning*, 4(2), Retrieved January 27, 2007, from http://klaatu-dev.pc.athabascau.ca:8080/dspace/bitstream/2149/360/1/GettingtheMixRightAgain.pdf.

Carmean, C. & Haefner, J. (2002). Mind over matter: Transforming course management systems into effective learning environments. *EDUCAUSE Review, November/December*, 27–34.

Caruso, J. B. & Kvavik, R. B. (2005). *ECAR study of students and information technology: Convenience, connection, control, and learning. ECAR key findings*. Retrieved June 15, 2006, from http://www.EDUCAUSE.edu/ers0506.

Chickering, A. & Ehrmann, S. C. (1996). Implementing the seven principles: Technology as lever. *AAHE Bulletin, October*, 3–6.

Collins-Brown, E. (2006). *Aspects of online courses that are more effective and successful than traditional, face-to-face courses*. Retrieved August 6, 2006, from http://www.elicbrown.com/dissertation.

EDUCAUSE Learning Initiative. (2005). *7 things you should know about social bookmarking*. Retrieved February 26, 2006, from http://www.EDUCAUSE.edu/LibraryDetailPage/666?ID=ELI7001.

EDUCAUSE Learning Initiative. (2005). *7 things you should know about wikis*. Retrieved February 26, 2006, from http://www.EDUCAUSE.edu/LibraryDetailPage/666?ID=ELI7004.

Everhart, D. & Waterhouse, S. (2006). *Syllabus strategies for interactive learning materials*. ELI Meeting. Retrieved January 29,2006, from http://www.EDUCAUSE.edu/upload/presentations/ELI061/PS04/SyllabusStrategies.doc.

Garrison, R. & Anderson, T. (2003). *E-learning in the 21st century: A framework for research and practice*. New York: Routledge Falmer.

Mann, C. C. (2006). Spam + blogs = trouble. *Wired, 14.09*, 104–116.

McGee, P., Carmean, C. & Jafari, A. (2005). *Course management systems for learning: Beyond accidental pedagogy*. Hersey, PA: Information Science Publishing.

McManus, D. A. (2005). *Leaving the lectern: Cooperative learning and the critical first days of students working in groups*. Boston: Anker Publishing.

Moore, J. C. (2005). *The Sloan Consortium quality framework and the five pillars*. Retrieved August 20,2006, from http://www.sloan-c.org/publications/books/qualityframework.pdf.

Morgan, G. (2003). *Faculty use of course management systems. ECAR key findings*. Retrieved August 6, 2006, from http://www.EDUCAUSE.edu/ers0302.

Russell, J. (2005, August 14). College careers go online: E-portfolios display personal growth. *Boston Globe*. Retrieved August 14, 2005, from http://www.boston.com/news/education/higher/articles/2005/08/14/college_careers_go_online.

Varian, H. R., & Shapiro, C. (1998). *Network effects*. Retrieved August 20, 2006, from http://www.inforules.com/models/m-net.pdf.pdf#search=%22network%20effect%20hal%22.

Waterhouse, S. (2005). *The power of elearning: The essential guide for teaching in the digital age*. New York: Pearson Education.

Weimer, M. (2002). *Learner-centered teaching: Five key changes to practice*. San Francisco: Jossey-Bass.

Wikipedia. (2006). *Web 2.0*. Retrieved August 20, 2006, from http://en.wikipedia.org/wiki/Web_2.0.

BIOGRAPHY

Deborah Everhart is a senior architect at Blackboard Inc, where she provides leadership in product strategy and development. She teaches as an adjunct assistant professor at Georgetown University and has used computers in the classroom since 1985. She received her PhD in English from the University of California, Irvine.

Deborah Everhart est architecte principale à Blackboard Inc où elle dirige les stratégies et la mise au point du produit. Elle enseigne en tant que professeur adjoint à l'Université de Georgetown, et depuis 1985, elle utilise des ordinateurs en salle de classe. Elle a reçu son doctorat en anglais de l'Université de Californie à Irvine.