

FACULTY FOCUS

Special Report

Designing Online Courses: Models for Improvement

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Designing Online Courses: Models for Improvement

Designing an online course shares many of the same elements and processes that go into designing a traditional face-to-face course, however the online environment brings a unique set of challenges that require special attention and a different approach.

Faculty charged with developing their own online courses can find learning the new technology particularly frustrating, and those who are not early adopters to technology might resist the process entirely. Indeed, many institutions are realizing that the development and delivery of online courses is an increasingly complicated process, requiring both a specialized pedagogy and a technological expertise – and it’s rare to find both qualifications in the same person. In the article “The Collaborative Approach to Developing Online Courses,” the author explains how one university adopted a centralized and standardized approach to the design, development, and management of online programs that respects the talents of both instructional designers and faculty by allowing each to work in their own specialty. As a result, courses have the same quality standards and a more consistent look and feel.

This special report features eight articles pulled from the pages of *Distance Education Report*, and covers a variety of different aspects of online course design. Some of the articles you will find in the report include:

- The Collaborative Approach to Developing Online Courses
- Building Course Quality Systematically
- Who Ya Gonna Call When a Course Needs Help?
- Developing a Course Maintenance Process for Your Online Courses
- What Learning Object Repositories Mean for Your Program

Whether you’re developing a new online course from scratch, or updating one that’s starting to show its age, this report will give you new ideas to consider.

Mary Bart
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Faculty Focus

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The Collaborative Approach to Developing Online Courses

By Jennifer Patterson Lorenzetti

Park University began its journey into online education in 1996, putting it near the forefront of distance learning institutions. As their program grew, Park, like other institutions, increased its offerings by training and encouraging faculty members to put their courses online. Patrick Lowenthal and John White, both of Regis University, say in an article in the *Encyclopedia of Distance Teaching and Learning* that this is the “Lone Ranger and Tonto” approach, relying on an individual instructor striking out on his or her own to master the skills necessary to create an online course.

As many institutions have learned, this idea, while rooted in the traditional history of course development, included some problems. “Very few people are qualified to do that [develop courses and be a subject matter expert],” says Evelyn Knowles, PhD Coordinator for Program Quality Development at Park. Lowenthal and White agree; they explain, “many institutions are realizing that the development and delivery of online education is an increasingly complicated process, requiring both a specialized pedagogy and a technological expertise possessed by few faculty.”

Easing faculty frustration

Faculty charged with developing their own online courses can find learning the new technology frustrating, and those who are not tech-loving early adopters might resist the process, shy of attempting or completing the significant task of developing an online course.

At Park, Knowles found that faculty also felt responsible for developing their courses on their own, even when an instructional designer and media developer were on hand to assist. It was a reasonable assumption: faculty are typically held responsible for both content and delivery of a face-to-face course, so it is logical that they would expect the same to hold true for an online course, in spite of the increased complexity.

In addition, the structure of having instructional designers available for support but not as partners in course development made the relationship with faculty

difficult. Faculty often did not have staff members critique their work, and the recommendations of these experts often went unfollowed.

Finally, the quality of the online courses was not where Park University wished it to be. When the university applied the Quality Matters (QM) rubric to assess its nearly 200 courses, only 11 percent met the standard. Clearly, a new model of course development was needed.

Results from the Collaborative Approach

To address these problems, Park University began using a course development system known as the collaborative approach. Various known also as the entrepreneurial approach or the enterprise approach, this system is in use by institutions in various formats. In explaining what they prefer to call the “enterprise model,” Lowenthal and White call it “a centralized and standardized approach to the design, development, and management of educational programs.” While the “Lone Ranger” approach is characterized by decentralized administration, faculty drive, individual course development, unstandardized development practices, and very little formal oversight, Lowenthal and White describe this enterprise or collaborative approach as having a centralized administration, drive by the administration, collaborative course development, standardized course development, and assessment, training, and oversight of the faculty.

The approach respects the talents developed by both instructional designers and faculty by allowing each to work in their own specialty. “It makes more sense than putting it all on the faculty,” says Knowles. “When we hire instructional designers, faculty can put their time to the content.”

In the collaborative approach, courses are developed by a partnership involving a course developer and an instructional designer. The course developers are more likely to be traditional faculty members who hold a terminal degree, have face-to-face teaching experience, and can serve as the subject matter expert.

The instructional developer, on the other hand has academic training in instructional design, often through an education technology or similar program. This is a “staff member who understands learning styles...knows how to make the screen readable,” and the like, says Knowles. As an example, most course management systems make it very easy for anyone to upload content, making many faculty members feel that they should be able to make these alterations themselves. However, a professional instructional designer understands the technical aspects of

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placing content online and the theory behind making content readable and the end product is much more professional and is consistent across courses.

Finally, the academic department chair or program coordinator reviews the course upon its completion, looking at the content and delivery from the eye of the end user (the student) and making suggestions about the addition of information, links, or assessment tools. This review is typically fairly easy if the content developer and instructional designer have worked together effectively.

This process also contributes to the public face the university presents to the world. “We want to be proud to show courses to the world as part of the university,” says Knowles. A consistent look and feel with high quality content makes the best impression.

What About Academic Freedom?

Taking a collaborative approach to course development can feel strange to faculty who are accustomed to taking full responsibility for the content and delivery of face-to-face courses, and there can be push-back. “It is a normal human reaction to change,” says Knowles. One of the first things faculty might say if they protest the approach is that it impedes academic freedom.

Knowles explains that this is not really an issue, although it is the instinctive protest from some faculty. “Academic freedom is the freedom to teach your views without being fired,” she notes. Students of higher education history will recognize and agree with this assessment, as academic freedom had its origins in the twin concepts translated as “freedom to teach” and “freedom to learn,” both designed to allow learning to take place without political interference, often by the government.

What this means in the modern university is that a collaborative approach still respects academic freedom. Faculty are encouraged to put their own imprint on the courses, offering their own unique outlook and experience. The actual content of the course is governed by the faculty member (content developer) and the academic department. The only significant change from the traditional model is the introduction of the instructional designer, who is charged mainly with handling look, feel, and user experience.

The Master Course Structure

Using the collaborative approach to online course development allows Park University to develop master courses which function as templates from which individual sections of the course can be duplicated. This is an efficient way to be sure that all sections of a given course

meet the same general objectives while allowing instructors who did not participate in course development be confident of the content and structure of their course.

More important, using a consistent structure aids the student, who only has to climb the learning curve in the first course they take at the university. After that, every online course will have a consistent look and feel. Information, assignments, and discussion boards will be located in consistent places, and students will have a general feel for expectations before they even begin the course. Lowenthal and White explain that “once a student learns the layout of the first course in a given program, he or she will be able to navigate and identify all important features and locations for all future courses in a given program.”

Knowles admits that Park University is still tweaking their process, primarily working with the long lead times for submission of content required from the faculty. “Faculty just don’t believe things are due,” she says. However, it appears that in spite of such minor challenges, the collaborative model has been a success.

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Building Course Quality Systematically

By Jennifer Patterson Lorenzetti

Creating an online course requires more than putting lecture notes and tests into an LMS. To make a course truly successful – truly high quality – faculty and instructional designers need to take advantage of the various media the LMS makes available to create a course that is effective for a variety learners and learning styles.

For an institution to accomplish this goal consistently, it needs to have a system in place to make creation of courses consistent. The institution needs “a systematic approach to make the content student-centered, but also a systematic approach to develop courses,” says Dan Jones, executive dean in the Center of Instructional Systems Development for Coastline Community College. The

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system creates peer-reviewed content that uses a team approach to development. And, because “we don’t want to redesign [everything] every time,” the system depends on the use of reusable discrete digital assets.

What Is a Lesson Made of?

All online lessons and courses at Coastline are made, ultimately, of discrete digital assets, the smallest possible unit of educational material they use.

Discrete digital assets are reusable elements, “all designed to be single-content assets or activities,” says Jones. These include video clips, photos, question and answer pairings, applets, information links, text/narrative blocks, graphics, and animation. The discrete digital assets

The templates “call information dynamically into the template,” meaning they can access the latest version of any discrete digital asset. For example, a presentation template may call in a script, a video, a set of questions, and information links.

reside in a database and are assembled to become learning objects. Instructional designers can add assets as they are developed, and each is available to become part of a learning object.

Learning objects are assembled from templates that call in discrete digital assets as needed. Learning objects each use an existing template that is already developed to serve as a shell of a particular type of lesson element, like a simulation, timeline, video interview, game, video interaction, or presentation.

“A typical template might pull content in five or six places,” Jones says. The templates “call information dynamically into the template,” meaning they can access the latest version of any discrete digital asset. For example, a presentation template may call in a script, a video, a set of questions, and information links. The templates all use a common look and feel with a consistent placement of links and drop-down menus, for example. This serves the dual purpose of allowing initial coding and organization to be reused and allowing students to learn the navigation of courses with their first online course, reusing that familiar-

ity with subsequent courses.

From these learning objects, a lesson is assembled. Jones explains that all lessons have links to a glossary and to web resources. Then, each specific type of lesson pulls in learning objects according to its own template. Jones estimate there are about 8 templates available, and each lesson is “then put [together] in a hierarchical way to make pedagogical sense.

Finally, lessons are assembled into a course in Seaport, Coastline’s own LMS. The content is peer reviewed, so the resulting courses are not only the creation of the instructional designers.

For example, the model online course template includes:

- A course content and syllabus module
- A course introduction
- 14 Total lessons, which pull in elements like a lesson introduction, a lesson pre-test, and an application activity. Within each lesson, there are three topics, comprised of a topic introduction, a topic content presentation, topic feedback and discussion, topic practice, and topic assessment and evaluation. Each of these may bring in discrete digital assets like links to web resources, lists of questions, video interview with experts, crosswords and games, essays, and a topic quiz.
- A lesson assessment and evaluation
- Course summary assignments and review
- A lesson practice room
- A set of course assessments, including a midterm and a final exam.

Lessons for Others

Jones feels the effort to create courses using the discrete digital assets was successful; “we would do a lot of the same thing,” he says, reflecting on the experience.

However, there were some lessons he learned that he would share with others attempting the same project.

First, “it took longer than we thought” to develop courses, Jones says. Working with teams, while valuable, had the tendency to slow the process. “The team approach takes a long time,” he says.

Second, the team was surprised by the complexity of the programming required to make a successful course template. “We wanted to use templates for all kinds of courses,” Jones says. “This allowed faculty to drive variability.” However, this also required some extensive programming.

Third, the templates made use of Flash programming, and therefore the college discovered that the resulting

product was not accessible for students with disabilities. This is due to the inability of most screen readers to read Flash-created content. “We are looking at developing another shell that can pull in content and make it machine readable,” Jones explains. Although this will not recreate the full multimedia experience that some students have with the Flash version, “it’s a trade-off we’re trying to deal with,” he says.

Finally, he emphasizes that this system is a way to deal with the challenges of online course development. “It is almost prohibitive for some shops to develop [their own courses.] We were trying to develop a system for faculty to build their own [courses] using templates,” he explains.

This course development system has several major benefits. First, it creates a “shared and growing knowledge garden” that can continue to develop, adding and reusing content even as courses come and go.

Second, the system increases the return on investment for developing media assets. Instead of developing a video and using it only for a brief portion of a single course, this system allows the video to be used multiple times across courses as appropriate.

Third, the natural consequence of this is leveraging scarce content across courses. Developing quality content for online courses can be an expensive endeavor, and any opportunity to get multiple uses out of well-constructed content increases the breadth and depth of each course.

Finally, the outcome of all of these is to create relationships across courses and subject areas. This has important pedagogical implications. For example, many disciplines make use of Maslow’s hierarchy of needs, but traditional approaches may only allow students to study this concept in psychology classes. If a graphic, a video, and a set of questions have been developed to address Maslow’s theory, these can be used in marketing, in history, and in a variety of other disciplines. This illustrates to students the interconnected nature of the various areas of study which, after all, do not exist in vacuums but in a relationship with one another. Forging this big picture understanding of interdisciplinary relationships may be the most important benefit of all to taking a more granular approach to course development.

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Who Ya Gonna Call When a Course Needs Help?

By Jennifer Patterson Lorenzetti

Dance is not the first subject that one thinks will translate well to online media, but Gina Sawyer, dance instructor for Richland College in Dallas, Texas has taken her dance appreciation class online and found ways to make the subject work well with distance delivery.

“Dance is an image-based discipline; it complements the virtual learning environment where technology allows us to see moving images on video via the Internet,” Sawyer says. “I’ve created a virtual learning environment to guide students in critically viewing dance images. And I’ve designed lessons involving peer collaboration and assessment in the virtual setting that I believe will engage learners as powerfully as face-to-face interaction.”

This unusual course was created with the assistance of the FAST team at the R. Jan LeCroy Center for Educational Telecommunications at the Dallas County Community College District. FAST stands for “Faculty Access to Supportive Technology,” and it is a team that specializes in instructional design, information technology, universal design, Quality Matters standards, Web accessibility, video production, and applications of new technologies, all to improve online and blended classes.

Creating an online rapid response team

The LeCroy Center was a natural place to house a team to help faculty members become successful online teachers. Theresa Roffino, the dean of resource development for the LeCroy Center notes that the center has been licensing and selling courses for many years, and that it houses Blackboard and the server infrastructure needed for online courses. Roffino adds that the Dallas Community College District is currently the second-largest Blackboard user, behind Blackboard itself.

She explains that of the 81,000 students enrolled in the system, at least 35 percent of them study online. However, because of the distance between faculty member and student, retention rates lag behind those in face-to-face

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courses. “Our students were driving us to do this,” Roffino says.

If students were the drivers, faculty were right behind them. After a fall 2008 presentation by author and speaker Curtis Bonk on Web 2.0 technologies, faculty members indicated that they would like to start using more of these technologies. “Faculty were eager to teach online, but they didn’t realize they had to change their pedagogy,” says Roffino.

So in February 2009 the center put together a team. This required the hiring of new staff, including an accessibility expert who addresses ADA compliance and accessibility issues for students with disabilities, and a technology expert who helps with issues such as Flash and the video library.

Calling in FAST

Faculty call in the FAST team by sending a consultation request. The team generally limits its involvement to problems requiring a week or less of assistance. “We’re bridging the gap between the training department and the help desk,” says Robin Bartoletti, an instructional designer working on the FAST team. The goal is “to assist faculty in becoming self-sufficient relating to online or hybrid course creation using eCampus and other supported technologies.”

The team does undertake longer-term course-completion projects, selected by through a competitive process twice a year. These projects usually require a minimum of four-and-a-half months of development time.

In keeping with the original inspiration from the Web 2.0 presentation, one of the primary services from the FAST team is helping faculty integrate social networking in their classes. The team had a grant to “help expand social networking in courses,” says Roffino, and these technologies can be used in multiple ways in a course. “It is an innovative way to get faculty and students involved in social networking,” she says.

For example, one social networking tool Bartoletti occasionally suggests is called aMAP, short for “argument map.” (See an example at www.amap.org.uk) This is an online debate tool that allows users to contribute and consider different arguments in favor of various propositions by representing them in a visual fashion. It is one way that social networking can help address the differences between face-to-face and online courses and allow faculty who teach online to substitute an entirely new approach to a classic problem. While it is difficult to replicate a traditional debate format in an online course, using an online aMAP allows students to argue a proposition and convey

Working with the FAST Team

The FAST team can help with several types of course-review projects, including:

- *Initial Evaluation:* This is an overview to be sure that all necessary components of a course are present, including text content, course outline or syllabus, permissions, lecture notes, exams, and answer keys.
- *Instructional Design:* This step occurs before the start of course design, when the team can assist a faculty member in developing a plan for course construction. Follow-up meetings might address course structure, design, using eCampus, and review.
- *Course Template and Design:* This service allows faculty to request a course template and work with FAST team members to develop a specific course that meets Quality Matters design standards, using electronic content supplied by the instructor.
- *Accessibility and Universal Design:* The FAST team can assess a course to ascertain whether it is accessible to assistive technologies and whether content is usable to all students.
- *Design, Layout, and Specific Formatting:* The team can provide assistance as needed with any of these elements.
- *Editing:* The FAST team will review content for clarity, completeness, and consistency.
- *Proofreading:* The FAST team can help an instructor proofread a course, although, as the subject matter expert, the instructor bears final responsibility for accuracy.

their thoughts visually.

A resource-loaded wiki

Within the wiki run by the team, there are a number of topic areas that instructor/users can consult to help answer questions and devise solutions. For example, a faculty member wanting to be sure her course is accessible to a range of students can click on “accessibility.” There she will find a downloadable checklist that she can use to assess her own course, information on HTML coding and CSS for accessibility, and a variety of links to resources that can help in building a truly accessible course.

If a faculty member clicks on the link about course design, he is greeted with a variety of resources as well.

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There is information on how visual design helps learning, plus a link to a number of checklists, including one for things that need to be done before a semester begins and one for the end of the term. The link to Quality Matters information includes a wealth of other links to information on this quality assessment tool.

The top-level wiki link to online pedagogy information includes a link to the classic Arthur Chickering and Zelda Gamson article, “Seven Principles for Good Practice in Undergraduate Education,” as well as an overview of technologies for teaching.

Sources for course content, too

There is even help for a faculty member who is unsure where to get informational content for a course. In addition to linking to the Dallas TeleLearning Digital Repository, there are links to Academic Earth, MERLOT, MIT OpenCourseWare, and a host of other resources. There is even a link to a virtual drosophila lab in which students can make crosses of various types of fruit fly, an exercise that will be appreciated by anyone who has ever tried to work with the live insect.

Resources like this are a boon for instructors such as Sawyer, who says one of her biggest challenges is “finding scholarly visual materials that can be used in a virtual setting without infringing on copyright laws.”

Since its inception, the FAST team has visited seven campuses and given presentations to more than 300 faculty members. Information is also available in wiki format on the team Web site, so potential users and those who are curious about the topic can share equally in the available information.

Ultimately, the FAST team is dedicating a great deal of time and resources to crafting effective online courses, and this fits with Roffino and Bartoletti’s shared belief that the current generation of students learns differently than previous generations, and that they deserve a new kind of pedagogy. “I really believe they learn in a different way,” says Bartoletti, with Roffino noting that these students have “a different learning style.”

“The tools are available to us, so we might as well use them,” Bartoletti says. With the help of the FAST team, many faculty members are doing just that.

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Developing a Course Maintenance Process for Your Online Courses

By Patti Shank, PhD, CPT

A significant investment of time and effort goes into developing most online courses. To get a better return on investment, many online courses are delivered more than once. But eventually, all online courses need to be maintained (updated). Over time, things change, including the curriculum and content. And technologies (ways that the content can be delivered and tools for interacting with it and with others in the courses) change, too, prompting additional changes to online courses.

In this article, I’ll discuss some project-management-oriented strategies to make course maintenance a more organized event.

Maintenance process

Some institutions lack a formal online course maintenance process, and this can lead to confusion about deadlines and who is responsible for what parts of the maintenance process. Consider developing a formal process and including elements such as the following:

- Course objectives
- Feedback from course instructors
- The frequency of maintenance for each course
- Maintenance completion dates to coincide with needed delivery days for a given semester
- The person in charge of maintenance (i.e., course maintenance project manager)
- Who is involved and each person’s role, responsibilities, and authority (When no one has the authority to enforce deadlines, course tend to be maintained “however” and “whenever”)
- Documents and media to be gathered for course maintenance
- The tasks to be completed, including due dates
- Prioritization and sequencing of tasks
- Contingency plans for common problems
- Training on use of new technologies

In my experience, if the maintenance process isn't well planned and communicated, maintenance tends to be done haphazardly and course quality can suffer.

It often helps to start the course maintenance process by having course developers (subject matter experts/faculty) and instructional designers review course objectives (what the learner should know and be able to do) and determine if these need to be changed. (If you don't make changes to course objectives, make sure they really don't need changing.) Since course objectives drive course content, activities, and assessments, it's hard to know what else to change until you have decided what the (new) course objectives are.

Also strongly consider getting feedback from instructors who teach the course that is undergoing maintenance. Adjunct instructors working in industry often have invaluable insights into what's happening in the field. These insights can add to the engagement and learning value of the course.

Create a list of the documents need that to be gathered prior to course maintenance and make sure each responsible person has what he or she needs for their part of the process. Some of the documents that may be needed include:

- Course objectives
- Textbook(s)
- Syllabus
- On-screen content
- Activities
- Readings
- Assignments
- Quizzes/Tests (and answers)
- Links

Make sure to sequence maintenance activities so that activities that should be done first (such as reviewing objectives) are done before activities that rely on that information. Doing a good job with sequencing your maintenance activities can reduce rework and other problems down the road.

When it's time to update, make sure to think about the ripple effect of course changes. While making all course maintenance decisions by committee is often a recipe for disaster (because it too often takes a committee too long to make needed decisions), it is often helpful to "cc" people who will be impacted by decisions so they can provide insights before important decisions are made.

Technologies review

Course technologies often change over time and each maintenance cycle is a chance to review the available technologies and decide whether available new technologies should be used in the updated course. Technologies that better enable student feedback, support, communication, collaboration, and learning must be strongly considered. Don't forget, however, that when new technologies are used, both faculty and students may need instruction. And that instruction should be part of your course quality rubric and input into process.

Each maintenance cycle of an online course is a chance to make that course better. And that opportunity should be maximized. To make the course maintenance process work better, consider rereading my last two articles on this topic and see if a combination of strategies from all three articles might make your course maintenance process work better for all involved.

Patti Shank, PhD, CPT, is a well-known information and instructional designer, analyst, and author who helps others build valuable information and instruction. She can be reached through her website www.learningpeaks.com.

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Practice Simple and Effective Course Design—Use the Learning Experiences Framework

By Judith V. Boettcher

Designing courses, whether for on-campus or online experiences, can be complex and overwhelming. There is seldom enough time to do all that we want to do; there are seldom opportunities to brainstorm with other faculty or consult with instructional designers.

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Here is an approach to analyzing and planning learning experiences that you might find useful. It is a straightforward, practical and manageable way to approach designing learning. It is called the Learning Experiences Framework.

The Four Basic Elements

Just as the ancients believed that the complexities and wonder of the earth are all comprised of some variation of the four elements of fire, earth, wind and water, the Learning Experiences Framework focuses on four basic elements that can account for all the complexities and wonders of teaching and learning experiences:

1. **the Learner;**
2. **the Mentor** (also called faculty, instructor, tutor, director);
3. **the Content** (including the knowledge, skill or attitude to be learned); and
4. **the Environment** in which the learning is to occur.

For example a biology student, the learner, may be running a simulated lab experiment. This resource, likely developed by an expert, was probably selected by the mentor for this learner. The knowledge and skill to be acquired—the content—are the abilities to run the experiment and understand the “so what” and the “use” of the knowledge. The environment is the sum of all the tools, and possibly a lab partner in that learning experience.

Similarly, a pilot—the learner—running a simulator may be immersed in an emergency situation, the sequences both random and yet not, that are set in motion by the mentor/director of the experience. The environment includes the simulator; the particular skill set for managing the emergency is the content.

In a popular online learning experience, the faculty mentor designs a discussion forum, posts the requirements and the rubrics, and then acknowledges, facilitates and wraps a discussion.

In all these designs the learner is at the center of the experience. The mentor/director is very involved in the design and selection of the resources and requirements, but manages and directs the actual learner experience from the sidelines, similar to a coach or a movie director.

Let’s take a closer look at each of these four elements of teaching and learning design.

The Learner

The key design questions for learners are:

- Who are they? and
- What do they hope to do or to be?

During a learning experience the learner is on a stage following the teaching direction to do what is needed to acquire the knowledge, practice the skill, and identify and articulate attitudes and ideas.

In designing learning experiences one of the most important concepts is the “zone of proximal development” developed by Lev Vygotsky, a 20th century learning theorist.

The zone of proximal development is the readiness zone of learning for any individual. This zone is what pulls the learner forward to new skills and competencies. The zone explains what is most often happening when students say that they are totally “lost.” They are probably outside their zone.

In a perfect world, we would know the zone of proximal development for each student. When designing, however, we need to make the best guess as to learners’ probable zones and then refine those estimates during a course.

This means course designs needs to include strategies for hearing the learner’s voice, so that we know what they know and what they think they know.

What design techniques engage learners and draw them into experiences?

We do know this. Learners are drawn to puzzles, simulations, games, and “what if” scenarios. Rather than reading or listening, learners like to do, talk, move, create, and share. They like to be in charge of what they are doing and they want to do it with others. They like to focus on the how, not the what of things.

A social media researcher, currently at Duke University, K. Hayles, has asserted that learners are particularly engaged when they experience feelings of “autonomy, competence, and relatedness.” Not surprisingly, these are the feelings that users of the newer social media tools such as Facebook, tweeting and texting enjoy and may explain some of their popularity.

The Mentor

Two key design questions for the mentor include:

- How do I best mentor learners? and
- How do I best direct and support learners through the instructional events, and the need to assess and certify the student learning?

A course design should specify the mentor behaviors that best support and direct learners towards the performance goals.

Just as learners are very individual, so too are faculty. Thus course designs need to be flexible so that faculty can

shape designs to their skills and capabilities within a range of program requirements. Mentors need to be ready to support learners with the tools and resources available within the environment.

The Content

The content/knowledge element of design answers the questions:

- What are the core concepts and skills to be acquired and developed by the course experience?
- What are the resources that will be used? and
- How and when will learners access those resources?

The design of most courses begins with a set of performance goals and learning outcomes. Then a series of experiences within a course are designed to achieve those goals. To have a good fit of the learning goals and the learner, the content needs to be able to be personalized and customized.

A good approach for this is to think of the course content in four layers:

- Core concept resources
- Resources that “situate” or place core concepts in simple context
- Resources that focus on using core concepts in more complex scenarios
- Resources for supporting customized and personalized learning

More and more applications are about creating, generating and organizing information and content rather than reading or listening to resources. This means that some of the resources may be tools that learners use to record, explain, reflect on their learning. Learners will gravitate to programs that integrate the generation and analysis of shared, spontaneous content. Wiki and blog tools and other social networking and immersive environments are excellent tools for involving students in problem-solving and authentic contexts.

The Environment

The environment element is everything else associated with the learning experience. The environment is everything, human and non-human, that learners interact with to learn. The environment answers the questions of:

- Where will learners be learning?
- When, will learners be learning?
- With whom will learners be learning? and
- With what resources will learners be learning?

The most fundamental truth about environment is that it makes a difference.

As in the earlier examples, the learning environment might be an immersive experience such as a simulator or a lab environment. In problem-solving and other virtual immersive experiences the environment might be Second Life. For other experiences the environment may mean collaborating with other learners using SKYPE, an online classroom application, or the plain old telephone. It may mean using the social media tools such as blogs, wikis or listening to or creating podcasts. It can mean reading or writing or working in a study group at a local wi-fi equipped coffee shop or library.

Conclusion

Designing learning is never quite finished as learners’ brains and lives are as unique as their DNA. So when we design a course, we design for the probable, expected learners, and then customize and personalize for the actual, specific learners.

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Is There Too Much Interaction in Your Courses?

By Jennifer Patterson Lorenzetti

Interaction has always been seen as a key component of an online course. Whether it is student-student or student-teacher interaction, the ability to discuss and exchange ideas has long been considered to be the piece that adds value to an online course, keeping it from becoming simply the posting of written course material on a web page, the digital equivalent of a correspondence course. In fact, many programs promote the highly interactive nature of their curriculum as evidence of its educational value.

But what if this assumption were wrong, or at least questionable? This is the finding of recent research by Christian J. Grandzol, PhD, and John R. Grandzol, PhD, both of

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Bloomsburg University of Pennsylvania. In a recently published paper entitled “Interaction in Online Courses: More is NOT Always Better,” the authors report that “our key findings indicate that increased levels of interaction, as measured by time spent, actually decrease course completion rates. This result is counter to prevailing curriculum design theory and suggests increased interaction may actually diminish desired program reputation and growth.”

The research: Questioning the value of interaction

The value placed on interaction in a course is second nature to anyone familiar with student development and pedagogical theory. The authors note that five of the seven principles identified by Chickering and Gamson relate to interaction in learning. (These include “between students and faculty, reciprocity and cooperation among students,

To gain more insight into the value of interaction in online courses, the authors conducted a study using data gathered from a course management system that measured time spent in specific interaction activities, such as viewing the home page, logging into the grade book, sending email, or reading and participating in discussions.

prompt feedback, emphasis on time on task, and communication of high expectations.”)

However, as time has passed, some research has begun to question the value of interaction, suggesting that there could be too much interaction required in a course. Summarizing 2007 findings by Arbaugh and Rau, the authors report, “learner-instructor interaction had the strongest correlation with perceived learning; learner-learner interaction actually had a negative correlation with delivery medium satisfaction. The more participants a learner had to pay attention to, the less satisfaction they had with the learning environment.”

It is possible, in other words, that requiring students to read and respond to posts and conversations from many different classmates may actually cause a good deal of frustration and dissatisfaction with the course experience. This study, which looked at online MBA courses, suggests that there may be an optimum level of interaction for graduate-level courses, and that more is not always better.

Findings suggest a new view

To gain more insight into the value of interaction in online courses, the authors conducted a study using data gathered from a course management system that measured time spent in specific interaction activities, such as viewing the home page, logging into the grade book, sending email, or reading and participating in discussions. Success was measured by course completion. The study population was the student population of online business courses at a state education system.

Some of the key findings from the authors include:

1. **[The authors] found that learner-learner interaction was significantly, but negatively, associated with course completion rates.** Learner-faculty interaction and enrollment size were not significantly related to course completion.
2. **Neither student nor faculty time spent in threaded discussions made significant contributions to their respective constructs.** This is contrary to what [the authors] expected as discussions are often viewed as one of the most effective practices for online courses.
3. **This finding does not indicate that discussions are not important to the learning process.** As Arbaugh concluded, the interactions of students in areas such as discussions are a necessary, but probably not sufficient condition, for student learning in the online environment.
4. **[The authors] did not find a significant correlation between enrollment size and online course completion rates.** This finding indicates that calls for enrollment caps may be more arbitrary than fact-based. Very large sections were removed from analysis after having been identified as outliers, with the result being a majority of classes in this study had between 14 and 30 students. Perhaps significant results would be found with the inclusion of larger classes.
5. **Enrollment had a negative association with faculty participation, suggesting that as section size increased, faculty actually spent less time accessing course activities.** This is counterintuitive, but may indicate that the time intensiveness of managing courses with larger class sizes leads faculty to seek efficiencies through standardized content presentations.
6. **No significant relationships were found between faculty participation and course completion rates.** This finding contradicts those that found the role of the instructor in course interactions was among the most

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critical for success in online courses. For example, the amount of time professors spend in a gradebook feature would seemingly contribute to the development of individualized feedback for students, but the finding was not significant in terms of adding to completion rates. Efforts to include extensive faculty feedback and interaction in online courses may actually be counter-productive.

7. **[The] study found a significant, negative relationship between student participation and course completion.** The relationship was weak and surprising. How could more student participation be associated with lower course completion rates? [The authors] offer three possible explanations.

- Arbaugh and Rau (2007) found that increased learner-learner interaction had a negative correlation with delivery medium satisfaction. **The more discussions students had to pay attention to, the less satisfied they were with the learning environment.** Students who invested a lot of time in certain course website areas may have been frustrated with the medium, or perhaps the courses were more difficult. Either way, courses where students had to spend more time were associated with lower completion rates.
- Second, Rungtusanatham and colleagues proposed that higher level courses (e.g. MBA level) require more interaction levels; introductory courses need little interaction. [The] sample consisted of community college courses. Do they require higher levels of interaction when the content may not need interpretation or further analysis? Arbaugh and Rau posited that even graduate course faculty should not necessarily push high levels of learner-learner interaction.
- Third, the factors that loaded on student participation may have contributed to this finding. The amount of time a student spends on a course home page may have little to do with course completion. The gradebook and email interpretations are more interesting. Perhaps the students that spent the most time in gradebook happened to be in the most rigorous courses with many graded assignments. The rigor of these courses may have contributed to the lower course completion rates, not the time spent reading a gradebook. Courses where students spent much time interacting via email may have contributed to lower completion rates. Email is a time intensive way to communicate, and may have led to less rewarding class experiences.

Implications for administrators

The authors conclude with several implications for administrators, the most important of which are:

1. **Online course completions may be the best way to measure success.** Although this metric does not directly measure learning, similar arguments could be made about course average and student perceptions of learning. It does, however, capture student retention and financial implications critical to program maintenance and growth.
2. **Faculty teaching in larger sections actually decreased time spent in online participation.** Training programs for faculty teaching online courses should emphasize this course design parameter and suggest efficient options for interaction that support individual feedback but are not overly time intensive.
3. **Requiring extensive faculty feedback as a performance metric may be inappropriate.**
4. **Administrative decisions regarding section size must accommodate variations in types, levels, and content of courses; absolute, comprehensive standards may be counterproductive.** Caps on section size may be more arbitrary than evidence-based (at least for section sizes up to 30 based on courses in our sample).
5. **Requiring student interaction just for the sake of interaction may lead to diminished completion rates.** Again, standards for online teaching should not contain arbitrary thresholds for required interaction.

Clearly, this indicates that online programs may wish to rethink their positions on interaction. While no one would advocate going back to the “correspondence school” days of posting reading materials online and having students read and test with no discussion with other students or the instructor, it may not be a valuable approach to continually push opportunities for interaction as the gold standard measure of a quality course. In some cases, requirements to interact can take a student’s attention away from mastering material, causing frustration and ultimately leading to failure to persist. Faculty members, too, may see requirements for ever-increasing levels of interaction as another way that online courses can expand to take more time than the traditional class.

With interaction, as with so many other things in life, moderation may be the best approach.

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Rapid Online Course Design: Course Development in Days

By David M. Penrose

One are the days when instructional designers and subject-matter experts could spend months building an online course. The familiar ADDIE (analysis, design, development, implementation, and evaluation) model, developed in the 1950s to meet the increased need of returning veterans searching for learning opportunities, seems to fall short in the 21st century. In higher education, courses must be developed, delivered, and modified continuously.

Currently the information doubling rate is every six months, and that rate is shrinking fast! This means that content used in the fall semester may not be accurate in the spring semester. Worse news is that information used to develop a course using the cumbersome ADDIE model could be obsolete before the course is even offered for the first time.

Dramatically reduce time

Actually, there is a solution that will serve the needs of contemporary educators. By establishing a framework for course creation that is flexible and CMS (course management system) independent, we can dramatically reduce the amount of time needed to launch an academically rigorous and challenging course. The framework must also support the utilization of both existing and not-yet-developed instructional technologies.

Following more than 15 years in higher education, I realized that there is a remarkable amount of similarity between the courses that I have personally built and seen built by other experienced instructional designers. These similarities have been incorporated into an instructional design model that I believe will allow courses to be built and delivered in just days, instead of months. This rapid course design is known as the SWC Model.

The primary aim of the SWC Model is to create courses that are complete, promote the achievement of predetermined learning outcomes, and are easily managed by the assigned faculty. An additional aim is to provide a framework whereby self-directed learners can exceed the learning outcomes by having access to greater amounts of

ancillary content: in other words, a course that supports, but does not require, more advanced learning.

The SWC Model is simple to explain. Every course developed should identify and include what every learner “should know,” “will know,” and “can know.” The remainder of this article will attempt to clarify these for the reader. For courses to be built in the shortest period of time, a framework for organizing important and relevant content is needed. By creating these content compartments, course materials can be identified and structured for optimal utilization.

What SHOULD every learner know?

This category includes the materials that are typically thought of as “course information” or materials that the learner should become familiar with before taking the course. These may include, but are not restricted to a) a welcome message, b) instructor’s bio, c) syllabus, d) course schedule, e) academic honesty policy, f) accommodations statement, g) contact information, h) frequently asked questions, i) “how to complete this course” guide, and/or j) student user guide (specific to the CMS or LMS). The purpose of this section is to answer the question, “What is expected from me?”

What WILL every learner know?

When developing an online course, most people are tempted to include every document, artifact, presentation, video, or audio that they have ever seen related to the course that they are building. While a vast collection is useful to some, it is frequently overwhelming for the learner. The question to ask yourself is, “What information is reasonable for every student to learn?” What is the answer? The course learning objectives! When you focus your design/development efforts on the learning objectives (outcomes), you discover that you need less content and more activities to promote learner engagement. These materials and activities are referred to as “course content.”

What CAN every learner know?

Labeled “course resources,” this component of the course includes the vast array of materials that can both support the achievement of the learning objectives as well as provide a stimulus for deeper learning. This section of the course allows learners, without the threat of failure, to explore those topics that are of particular interest. By providing this course-related library of documents, articles, video, audio, websites, samples of others’ work, presentations, rubrics, and stories, learners can begin to see where

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future study will lead. Every course should provide information that extends well beyond the scope of the current course.

So, is that all it takes to rapidly design an online course? No. However, by taking a constructivist approach to balancing the introducing of relevant materials and engaging learning activities, an academically challenging course can be developed in short order. Add to the course a solid framework for assessment like that found in the SOLO (structured observation of learning objectives) taxonomy and you have a course that can survive time. Of course, maintaining that delicate balance between teaching and facilitating learning online is a skill that can always be improved on.

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What Learning Object Repositories Mean for Your Program

By Christopher Hill

Penn State's World Campus is one of the country's leading online programs. When Penn State launched its Blended Learning Initiative (BLI) in 2004, the World Campus unit entered a phase of intensive new course creation. It soon became apparent that they were developing content that could become a resource for the whole university, if they could make the learning objects and resources from the BLI available to faculty across the university.

The World Campus created a committee to investigate specific requirements for a Learning Object Repository (LOR), to explore existing systems as well as possibilities for developing one in-house. Originally developed for educational clients, the Equella system, a commercial product that was developed by The Learning Edge, was found to be the best fit. World Campus recently began piloting the system by allowing invited faculty to use the repository. They operate the repository under the name Penn State Share.

Andrea Gregg and Lynne Johnson, senior instructional designers for the World Campus, were both part of the team that researched and developed the new learning object repository. We talked with them recently about the role of reusable content in the design and teaching of online courses.

Q. Why should a distance learning program make use of reusable learning objects? What are the benefits?

A: In looking at the higher education and online learning landscape, it would seem reasonable that this is a direction that many institutions should examine. As content becomes more ubiquitous and easily sharable, one must question whether it makes sense to constantly duplicate the costs and efforts of re-creating similar content. However, what quickly becomes very apparent is that learning objects do not always capture the way individual faculty may want to convey concepts to their students.

We do know there are great examples of LORs being used (for example, the MIT initiative and the success of the UK Open University's iTunes initiative), but they appear to relate more to informal learning than to material being incorporated into courses for credit. This aspect of the use of LORs for informal learning is something we need to examine and better understand in higher education and continuing education, as the data would imply there is real value in the material outside of the context of credit courses.

So the question of "why" is complex, when one considers the costs of setting up and maintaining an LOR. For the World Campus and for the university's Blended Learning Initiative, the key reasons we moved in the direction of exploring a LOR were these: 1) To gain efficiencies and make better use of limited resources—if you have limited resources, especially multimedia resources, it is not efficient for different units across the institution to re-create the same material if it already exists; 2) Ease of access to resources—if you're a professor who wants to try something, this is a lower-stakes way to get started because you don't have to invest a lot of time in the production; and 3) Knowledge sharing—providing instructional designers around the university with a platform that would give them a view into what others are working on and of the learning objects being created around various courses.

Q. How common is the practice of using reusable learning objects in distance education course design?

A: Based on the feedback we have been getting at conferences, not that common. It's one of those things that

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everybody sees the advantages of, but so far it hasn't caught on across the board. In discussions we've had with colleagues involved in distance education as well as faculty members, there is definitely a culture of ownership/authorship deeply engrained in the academy that is somewhat fundamentally at odds with the idea of freely sharing content to be used by others. Additionally, as discussed above, there is also a hesitancy to use objects created by other people, because many faculty are still cautious about the integrity of those objects.

Q: From what sources do you collect the content of a repository?

A: We are using multimedia objects from our existing courses that were created by our World Campus Learning Design multimedia staff in conjunction with faculty. We are currently working with WPSU (our Public Broadcasting station) to incorporate a number of their multimedia assets. In addition to multimedia, and specific to the Blended Learning Initiative, we've chunked entire course curricula and have learning objects that are individual course lessons, containing text and the accompanying multimedia.

Q: Do you work with faculty from the different departments in setting collection or acquisition goals and guidelines for your repository—i.e., to determine what courses/lessons/skills should be covered by the content you collect?

A: Up to this point, most of what we've done has been internal to our unit. We wanted to customize the LOR and make it user-friendly before opening it up to faculty. This was our first venture into metadata, so we wanted to become familiar with tagging and create support materials during the early phases. For the BLI, faculty know that content developed for the project will be put into the repository. Key to this phase of the pilot was ensuring usability of the system and developing a metadata scheme that collected sufficient data but was not so overwhelming that it discouraged use.

Q: What is your system for qualitative evaluation of the learning objects? How did you determine that a learning object was effective enough to go into your repository?

A: Currently, learning objects that are entered into the system are created by our Learning Design staff (instructional designers and multimedia specialists) in partnership with Penn State faculty, for courses taught through the World Campus or as part of the Blended Learning Initiative. Thus, we have relied on the faculty to determine the effec-

tiveness of learning objects based on their course experiences. Learning objects created for the BLI were put into the repository as soon as they were created and will be revised based upon feedback from the faculty.

Q: What are some of the best open sources of reusable learning objects for educators?

A: We spent a lot of time exploring these resources: Merlot, Connexions, OrangeGrove, and MIT OpenCourseWare. Also, as mentioned above, the iTunes collection of course lectures and videos from the Open University in the UK is a great resource.

Q: Are the objects in your LOR openly available to all educators?

A: At this point, the learning objects in Penn State Share are not openly available to all educators, although we hope that in the future they will be. Penn State holds the copyright to the objects created through World Campus courses, and they must be password protected to comply with those rights. Once faculty start contributing items, they may choose to have their learning objects be public.

Q: Are there any intellectual property issues involved in assembling a learning object repository?

A: One thing we're at the beginning stages of is how to modify intellectual property agreements to allow faculty to decide if learning objects developed for their courses can be used under the Creative Commons licenses. Faculty will be able to decide when contributing an object to the repository whether it is only for Penn State use or if it can be used by anyone with access. Also, they will be able to decide if an object can be modified or has to be used as presented in the repository. In all cases, faculty will need to ensure that no third-party content is posted that is protected by copyright law.

Q: Where can instructors find guidance on making the most effective use of reusable learning objects in their courses?

A: As we move into the third phase of piloting our LOR, the instructional designers are developing instructions for the faculty and meeting with individual faculty at the various campus locations to discuss how the objects in the LOR can be integrated into their online or hybrid courses.

Q: Does the extensive use of reusable learning objects have any pedagogical implications?

A: It used to be said that "content was king"; now what you hear is that "content is ubiquitous." The idea is that

what will become increasingly important in formal learning experiences is not the production of content, as high-quality content will become increasingly available, but the skill of being able to easily locate relevant content; to knit it together into a cohesive learning experience; and then to dedicate the true creative energies to the course dialogue, learning activities, and new assessment strategies to help build deep learning of the subject by the students.

Technologies like learning object repositories will help make the creation of content less of a focus and shift the focus to the creation of course elements that help promote critical thinking skills surrounding the content.

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