

JUNE 2009

A Learner-Centered, Emotionally Engaging Approach to Online Learning

By Rob Kelly

Learning research indicates that people learn better in the presence of some emotional connection—to the content or to other people. Creating this emotional connection is particularly challenging in the online classroom, where most communication is asynchronous and lacks many of the emotional cues of the face-to-face environment. Nevertheless, it is possible to do, with a learner-centered approach to teaching and a mastery of the technology that supports it, says Rick Van Sant, associate professor of education at Ferris State University.

“One of the things we know about learning is that learning with emotion is a far deeper experience than learning without emotion,” Van Sant says. Citing recent research (see reference below), Van Sant notes that a little bit of stress and the corresponding release of cortisol makes “neural connections grow thicker, stronger, faster.” However, too much cortisol degrades memory performance.

Creating an emotionally stimulating environment is something good face-to-face instructors do intuitively. “We live and thrive on the positive feedback from students. Students shape our behavior all the

time. When technology is mediating between the learners and me, I lose the capacity to read my audience, engage my audience, and alter my style and cadence. I have no capacity on that kind of intuitive level [in the online classroom]. It all has to be intentional and cognitive,” Van Sant says.

Technology provides access to a vast array of content that has the potential to resonate emotionally with students. One site that Van Sant uses in his courses is Technology, Entertainment, Design (www.ted.org), which features top presenters talking on a wide range of topics.

“I can watch the world’s best presenters, speakers, and thinkers and bring them into my classroom. I can challenge my students with that information. I can ask questions. I can engage them in discussion with their own small community of learners about just what [the presentation] meant for them. The goal is to produce some emotional response, and probably seventy percent come back and say, ‘Wow, I’ve never known stuff like this existed,’ ‘That was the most amazing presentation,’ or ‘This person made the topic come so alive for me.’ It’s

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TIPS FROM THE PROS

Use Message Prompts to Promote Deeper Discussion

If you’re looking for a way to promote deeper discussion and higher levels of argumentation in your threaded discussions, consider using message prompts such as “My argument is ...,” “On the opposite side ...,” and “Explain why ...,” says Allan Jeong in the recent Magna Online Seminar “Learning Styles: Fact and Folklore for eLearning” (www.magnapubs.com/catalog/cds/602248-1.html).

“In my online courses, I require my students to restrict their postings to just four types of responses: arguments, explanation, challenges, and evidence. ... I would say about 90 percent or more of my students like using this particular strategy or technique, and they report that the message tags help them to monitor the thread and to pinpoint areas of contention that might require further attention and further discussion,” Jeong says.

Jeong highlights a study by Nussbaum et al. (see reference below) that found that this strategy helped learners who were less assertive, less anxious, and less open to ideas engage in more argumentation.

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Online Classroom (ISSN 1546-2625) is published monthly by Magna Publications Inc., 2718 Dryden Drive, Madison, WI 53704. Phone 800-433-0499 or 608-246-3590.

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USC Goes Beyond Text with its Innovative Online Graduate Education Program

By Rob Kelly

In June, the University of Southern California's Rossier School of Education will enroll the first cohort of students in its online master of arts in teaching program, which will use a combination of interactive technologies such as streaming video, animation, and other Web 2.0 technologies.

The program, which uses a custom platform developed by Kaltura (<http://corp.kaltura.com/>), features a thin app (no software downloads needed) that combines features found in popular Web 2.0 applications within a single platform. "We pulled together the best elements of different types of programs. It's almost like designing a car—I like the seats in the Mercedes, and I like the transmission from Honda. I want the community building aspect of Facebook and the video capacity of iMovie. It has that feel," says Melora Sundt, professor of clinical education and associate dean for academic programs at USC's Rossier School of Education.

Making the most of the Web

The program was designed in response to some of the shortcomings Sundt and her colleagues observed in many other online programs—mostly text-based and not particularly engaging or interactive. For example, one online course that Sundt took "was all about posting questions and everybody responding in. I found it to be pretty boring. [Courses like this] are not taking advantage of what the Web can do.

"Teenage kids will spend hours on the Internet. Stand behind them, watch over their shoulders, and look at what they're doing. They're

following links. They're following the Internet all the way around and going where they want to go and teaching themselves things. Part of what we have to do is harness this and adapt to the generation of students that is going to be coming through the program," Sundt says.

The program emulates some elements of Facebook. Like Facebook, this program's home page has a newsfeed, which reminds students of what is currently happening in their courses and alerts them to upcoming events.

Each student in the program will have a profile page, which will include a biography, a wall on which others can leave messages, and a brief video, which are intended to facilitate interaction throughout the program and help students practice using the video technology they will use throughout the program.

"I think it's going to be comfortable and familiar for many students. It expands the ability to connect, which is a key problem with many other programs. People talk about alienation. They don't feel like they're connecting to anybody. They're missing that sense of community. Given what something like Facebook can do, if you can draw out the best of that and put that into a course, then you are really harnessing the technology that people are familiar with, and you're beginning to close that alienation gap," Sundt says.

The platform is designed to help students know where they are on the site at all times through a global navigation system at the top right of the screen. On the left side are links to course elements that are relevant to the current page.

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Teaching Online Science Courses by Using a Combination of Simulations, At-Home ‘Wet’ Labs

By Rob Kelly

Tina Christinck, a biology instructor at Eastern Wyoming College, uses a combination of virtual and “wet” labs in her online courses. Although there are some limitations to this approach, for introductory courses this combination is a suitable alternative to face-to-face labs.

Christinck uses the following resources to support her courses:

- www.biologylabsonline.com: This proprietary site offers a series of interactive, inquiry-based biology simulations and exercises on topics such as cellular respiration, photosynthesis, and evolution.
- <http://learn.genetics.utah.edu>: This website, run by the University of Utah’s Genetic Science Learning Center, offers simulations and instructions for labs that can be done at home using ordinary equipment and materials.

The online labs offered by these sites cover most topics in introductory biology. The simulations allow students to manipulate variables and observe the outcomes. For example, an evolution simulation prompts students to manipulate several parameters while observing what happens to a population of finches over time.

Introductory information provides context and instructs students on how to do these simulations; however, the simulations are not limited to information provided by the site. Christinck modifies the simulations to suit the needs of her courses. “I’ve written my own labs that allow my students to utilize the simulations ... rather than using

their labs ... because I think they fit a little bit better,” Christinck says.

One of the advantages of these simulations is that there is some randomness built in—no two students will get the same exact data.

Christinck has students do hands-on labs as well. For example, students can do a DNA extraction at home using ordinary materials and equipment. “I have them set up some things that are very comparable to what I do in my classroom—[although] maybe not with a beaker—using different measuring tools that they may not have access to,” Christinck says.

An animation program on the University of Utah site shows how one would do a human DNA extraction using cheek cells. The site also has instructions on how to extract DNA from fruits or vegetables using water, rubbing alcohol, dish soap, salt, a blender, and a coffee filter (see <http://learn.genetics.utah.edu/content/labs/extraction/howto/>). “This lab takes things that are very easy to get and still does something that I would do in the classroom,” Christinck says.

Working individually on labs can be a challenge for students—not in terms of performing the lab, but in terms of interpreting the results. The most difficult lab for Christinck’s students is the photosynthesis lab. “They almost need me sitting there to bounce ideas off of, to help them think about photorespiration and some of those metabolic processes. Although the experiments turn out great—the data does, anyway—their conclusions, their understanding is lacking in a lot of cases,” Christinck says.

Christinck recommends that students work together (if they can)

or use the discussion board.

Another limitation of doing virtual and at-home labs is the lack of hands-on microscope experience. There are websites that have virtual microscopes, but Christinck has not used them. “I can give them the slides; upload .jpegs of micrographs; have them identify tissues, cells, and nuclei; and have them learn parts of the microscope. But when it comes to that hands-on piece, that’s one of my big concerns. Are they going to be comfortable with that? How do you do that online without having a kit that includes a microscope?” Christinck says.

To others who teach online lab courses, Christinck recommends the following:

- **Provide adequate tech support.** “Having good tech support can save the instructor a lot of headaches,” Christinck says.
- **Be consistent. She continues,** “It’s really helpful if the presentation of the instruction procedures is very consistent—[for example, by] doing things the same way each week in terms of downloading the instructions and what they need to do to prepare for the lab.”
- **Don’t be afraid to try new things.** Teaching online requires different solutions than those used in the face-to-face classroom or lab. Although there are many resources that can make online labs possible, these can and should be adapted to each course.
- **Be on the lookout for new resources.** “It’s amazing to me what’s out there and what’s free. It’s incredible,” Christinck says.

Contact Tina Christinck at tina.christinck@ewc.wy.edu. 

What Really Happened? Pump Up Your Online Courses, Part 8

By Patti Shank, PhD, CPT

My goal for this series of articles is to provide you with practical ideas that you can adopt or adapt for your online courses in order to improve student engagement and learning. Last month, I discussed helping students develop habits of mind around questioning online content credibility and quality. This month, I'll discuss a related topic—the use of online primary sources.

Primary sources are original documents or artifacts (or electronic versions of original documents or artifacts). They may include diaries, journals, letters, articles, and transcripts of speeches and interviews. Primary sources may also include data (such as census information) as well as media such as photographs, illustrations, maps, audio recordings, and video recordings (including recordings of events, interviews, films, and television programs). Primary sources may be digitized for electronic access, but to be accurate, they must replicate the actual document, data, medium, or artifact.

The purpose of using primary sources for teaching and learning vary. One purpose is to help students consider past events without the “filter” of the writers who are interpreting those events for us—even if they don't realize they are doing so, as is the case in many articles and textbooks. Another reason to use primary sources is to engage students' imaginations about why events happened as they did and why different people and groups saw those events differently. Primary sources can help students see that events don't happen in a vacuum; they happen to people and society in specific circumstances, and they

have foreseen and unforeseen consequences.

Not just history

It might be obvious that primary sources are valuable for teaching and learning history, but can primary sources be useful in other courses—for example, economics, physical education, or chemistry? Since primary sources can help students understand events and time periods, they can be valuable for many types of higher education courses.

For example, jump 30 years into the future. Do you think that economics textbooks will include information about the economic chaos happening in the latter part of the 21st century's first decade? It is likely that textbooks will include this information, but consider the benefits of also providing access to primary sources—for example, newspaper articles, stock market data, Federal Reserve announcements, and televised press conferences. These primary sources can provide students in the year 2039 with a depth of understanding about the times that you and I are living in, by augmenting the information found in textbooks (and, it is to be hoped, learning from our mistakes).

How can primary sources be used to teach physical education? Consider all the changes in health and exercise knowledge that have occurred over the past 50 years. In order to make the case that prescriptions for healthful living, eating, and exercise change over time, primary sources from the surgeon general, the American Council for Physical Fitness and Nutrition, and others can be read and evaluated by students. This information can help them see that

knowledge is rarely static and that, as a result, they should expect their knowledge and practice to also change over time.

Like physical education, science knowledge changes over time. Primary sources can be used to help students see what has changed and why, the consequences of those changes, and the implications for scientific inquiry and real-world practice as a result.

The bottom line is that embedding the history related to the topics you are teaching provides context for what is being taught. Research shows that adding meaningful context can make the content come alive and make the learning experience more engaging. Many topics seem dry out of context but are extremely interesting in context. For example, information technology infrastructure standardization may seem like an incredibly dull topic, but when information about the history of standardization is provided, the topic can come alive. How so? For example, standardization of railroad train tracks made economical transportation of goods over long distances possible. Internet standards, likewise, have made possible economical transportation of data over long distances.

Finding applicable primary sources

In the not-too-distant past, interacting with primary sources of information required visits to print, microfilm, and artifact repositories such as the Library of Congress and the National Archives. But today there has been a proliferation of electronic versions of primary sources on the Internet, and you

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not foolproof. There are always students in the online environment who you just can't get to. It doesn't matter if they're watching the best videos in the world or if I'm writing them directly or if the assignment is about reflection. Whatever it is, they're guarding themselves and they're guarding their emotional connection to learning."

Even though the content may be emotionally engaging, the discussion it generates may not be.

"One of the biggest barriers to online learning is our inability to respond in the moment, unless we happen to be on live chat or video, which is really rare in most of the online learning world," Van Sant says.

That moment after viewing some emotionally engaging content passes quickly. In a typical online learning environment, students react and post to a discussion board or blog and wait for a response. "I think it's one of the downsides of asynchronous learning. You lose that opportunity for the teachable moment," Van Sant says. "There are many positive aspects to online learning, such as thoughtful reflection. One of the things I see, the students who do not often volunteer or engage in on-the-fly discussion in a face-to-face classroom will turn around in an online environment and become significant discussants. Not that they're lazy in the classroom; they just don't process information on the fly quite like somebody else."

Despite the limitations of asynchronous communication, it still can create an emotional connection that supports learning. For example, collaborating on a wiki can be just the thing to motivate and engage students.

"If we're working on a wiki together and you edit something of mine, chances are there's a mild emotional expression associated with that—I don't like the edit, I'm sensitive about the edit, or I'm thrilled with the edit. But it's personal because I wrote it and you changed it. Can I trust you? That's an emotional experience. It might be a positive emotional experience. It might be a negative one. Whatever it is, it contains that seed, that very small element of an emotional connection to it: ownership."

Another obstacle to creating emotionally engaging learning environments is that many online instructors are not technologists. "They're teachers, they know their subjects, but they don't necessarily do a good job from a pedagogy standpoint," Van Sant says.

Many online instructors take a teacher-centered approach to pedagogy, posting PowerPoint presentations, notes, readings, assignments, and tests and quizzes and "tell students to go forth and learn," Van Sant says. "Really good online teachers have taken up the challenge to learn about the various tools."

"The classroom must be a learning community. In an online environment, you must be sure you are using the tools to make that happen. And these are the blogs, wikis, Web 2.0 tools and social bookmarks, and the discussion boards. The interactivity creates communities. When that happens, you've got far greater potential of engaging that otherwise somewhat unengaged student," Van Sant says.

Instructors who seek to create learner-centered online courses often read the work of Howard Gardner on multiple intelligences and think that for every lesson

they've got to create eight different kinds of assignments to reach the learning style preferences of all their students. But Van Sant assures them they need not go overboard in accommodating all learning styles.

"The goal isn't to cater to all eight individual multiple intelligences. It's about providing, over the range of a course, the opportunity for people to learn and express their learning within their strengths and not always have to operate within their deficits. To do that, you need variety. You need redundancy. You need multiplicity. You need different ways of sharing and knowing. ... What happens here is working in a much richer environment. It is a challenge for us to understand that in this rich environment we've got to become masters of that domain."

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The Online Instructor's Hidden Assistant: The Online Student

By Errol Craig Sull

Teaching any online class is time-consuming and can be a juggling act. The instructor must keep students engaged and motivated, adhere to a variety of deadlines, quickly answer all student emails and postings, react to in-class “emergencies,” stay on top of all school policies, and teach the subject in an easy-to-understand manner—while remaining a patient, upbeat, and constant presence through it all. This is no easy task, and while we each have developed approaches to help us, there is one often underused “tool” that online instructors can employ: the students in one’s course.

When students are asked to help out, either directly or indirectly, a course can become more efficient and will run more smoothly, and the students can become more engaged with fewer concerns. Following are some suggestions on how to make the best use of your students as “assistants.”

Check out any suggestions and information found in discussion or chat forums. In the discussion and chat features of online courses, students offer information, insights, criticism, and suggestions on specific instructor questions related to the course—as well as on other student postings, the course overall, and even the instructor himself/herself. Read these thoroughly; there is much to be learned about problems in the present course, concerns students have with the subject matter, and confusion about instructor directions or comments. These serve to warn you of concerns that need to be immediately addressed by you—

and prevented in your future courses.

Note student complaints and suggestions during the course.

Students will write to you throughout your online course, either in response to something you posted or with an unexpected message—and each of these communications has the potential to help you become a better instructor. This can occur through suggestions on how to improve your teaching methods; on being more careful with your comments, grading, or assignment notations; on your choice of overall language and tone in postings; on your timely response to student queries—the list goes on. What you never want to do is to read a negative student posting and react in an emotional manner; this only hurts the student, the course ... and you.

Take seriously all student evaluations. Many online instructors blow off student end-of-the-course evaluations, especially those that are negative; they feel that the students are reacting unfairly on a personal basis (i.e., “I got a bad grade in this course, so I’m going to get even by giving a bad evaluation”). While this certainly happens at times, it is the exception; indeed, student evaluations can provide an instructor with insightful, interesting comments—often addressing issues that the instructor may not have been aware of throughout his/her course. So read these evaluations, learn from them, and become a better instructor with their help.

Get a better sense of student learning needs from their lives.

One of the biggest complaints

students have about online courses is that they are too generic and theoretical, with little or no thought given to a course’s application in students’ real lives, in terms of “This is what I’m doing now” or “This is what I will be doing.” Yet when course information does touch the students in a meaningful, truly useful manner, it keeps students more engaged in the assignments and creates a better rapport throughout the course. Two ways to ensure this are by reading the student biographical information that typically is posted at the beginning of a course and by posting a relevant question to the class, such as “How will the information in this course prove helpful in your everyday lives?” Use the information you learn about the students to insert activities, post resources, and offer discussion or chat questions that make the course more pertinent to them.

Post questions that will benefit the students and you—and your future courses. Ask class and individual questions of students relating to their experience in the course, their professional interests, and their course concerns. Don’t hesitate to ask students about other areas of the subject matter they would like to explore, what they think could make the course a more positive experience, and their overall reaction to your teaching of the course. By seeking this information, you can learn much to refine the course while it is being taught, to direct the course more toward student needs, and to improve upon future courses you teach.

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Seek out student “experts” in online courses and technology—and use them. Just because you are the one teaching the course does not mean you know everything about the use of computer technology or the strategies to use in taking an online course. Many students have superb computer skills or are particularly experienced in pursuing an education via distance learning. Early on, ask a question to the class that will bring these people forward; then continue to ask for their input along the way. Inquire of those with computer expertise whether you can use them as “tech assistants” in the course, so that other students could go to them with computer-related questions. These student “experts” and their information can save you time, keep your class running more efficiently, and minimize the student confusion level.

When necessary, employ a buddy system to help weaker students. You will come across a student or two whose computer skills or basics in the subject you’re teaching may be very weak; the attention you must give all your students makes giving intense individual assistance to these students difficult if not impossible. To help, set up a buddy system: ask for student volunteers who will be available to answer another student’s questions during the course. You will find there are always students willing to volunteer; the end result is a class that is stronger and thus more engaged and vibrant. (Note that you should never promise extra credit or the like—it is not fair to the members of the class who may not have those strengths to offer.)

Be aware of problem areas that students encounter in navigating the course site. No course management system or course structure is perfect. Keep a master checklist of all items to look over before a course begins, and add those legitimate ones that students point out. This will only ensure that your next courses go smoother yet.

Do a student website hunt activity. The more resources you can offer students that help in the subject area being taught and that improve overall course rapport and engagement, the better. One way of improving these aspects is by posting a student activity or discussion question that requires each student to do two things: post a list of three websites that are helpful in better learning or understanding any aspects of the course, and post three websites that are just cool, unusual, or interesting (but have no relation to the course). One sentence describing each website must also be included. By doing this activity, the students gain additional information on the course topic and also enjoy a bit of fun that breaks up the seriousness of the class. Together, these translate into more student engagement, interest, and interaction in the course.

Let students remind you of your responsibility and role as an online instructor. Each student comes to you for guidance, information, insights, and suggestions on a subject so that he or she can become more adept with that subject. It makes no difference whether this is a core subject for a student’s major, a refresher course for a profession or certification, or

an elective: the students themselves serve as a constant reminder that you are in the role of instructor because of your subject knowledge, your ability to teach, your adeptness at instructing online, your high ethical and moral standards, and your commitment to your school’s rules and policies. Never forget any of these elements; when you do, the students lose, the school falters, and you disappoint—all results that you never want in your teaching portfolio.

REMEMBER: Holmes has Watson. Donald Duck has Huey, Dewey, and Louie. Batman has Robin. The importance of assistants can never be overstated.

Please let me hear from you! Send along suggestions and information for future columns. You can always reach me at errolcraigsull@aol.com. And remember: please forward me your computer tips and suggestions for making teaching in the online classroom more efficient and productive.

Errol Craig Sull has been teaching online courses for more than 14 years and has a national reputation in the subject. He has written and conducted workshops on it and is currently putting the finishing touches on his next book: How to Become the Perfect Online Instructor. @

Video

The following are some of the program's video elements:

- **Classroom observation**—Students record observations and edit and upload parts that they think are important for classmates to view.
- **Synchronous video viewing/discussion**—The platform enables students to view videos as a group and conduct a live video conversation (similar to Skype). “If we're going to talk about behavioral learning theory, for example, we go out and interview people who are known in that area and talk about key points in how the behavioral approach works,” Sundt says.
- **Embedded comments**—The platform also enables students to take notes and insert comments at specific points in videos. This feature will be useful in critiquing videos of student teaching, Sundt says.

Animation

One of the goals of this academic program is to help students under-

stand and apply learning theory. The program includes animations to illustrate how learning theory operates in the classroom. This supplements live video and clearly conveys some concepts that are difficult to simulate with live action video. “Sometimes it's easier to do with animation than with live actors because you can control the animation to a greater extent,” Sundt says.

Data collection and assessment

As with any academic program, assessment is an important element in determining how well students are learning. And the platform was designed to provide a wealth of assessment data. “Some of it is looking at where they go, how long they spend on it, and how often they return. That's all trackable,” Sundt says.

In addition, each page has a feedback button, so the school can track which content and/or pages are giving students trouble.

“Higher education in general is not great about assessing learning outcomes, and yet, with a platform like this, which is literally reporting every move that students make on,

there's not much of an excuse to not try to figure out what seems to be correlated with learning outcomes and what does not,” Sundt says.

Portfolios

Throughout the program, students are creating products—journals, notes, videos, discussions—that will likely be useful during their time in the program and in their careers.

All of this content will be available in online student portfolios, which include a private section for the individual student to view all their work in the program; a “showcase,” in which students can compile the highlights of their work to show potential employers; and a contacts page to maintain the connections with fellow students, instructors, and others connected to the program.

Contact Melora Sundt at sundt@usc.edu. For more information about the program, visit <http://rossier.usc.edu/mat>. @

now can use these sources to augment student understanding and involvement.

There are numerous places to find primary sources that you can use to enrich your course readings, discussions, and assignments. Some resources require a subscription or other payment but may be available freely through your institution's library. Here are a few to consider:

- Magazine archives, such as the *Time* magazine archive (www.time.com/time/archive)
- U.S. census data (www.census.gov)
- The Library of Congress' American Memory site (<http://memory.loc.gov/ammem/index.html>)
- U.S. government documents and records at the National Archives (www.archives.gov)
- Film databases such as The Internet Movie Database (www.imdb.com/list)

Make sure to evaluate both the primary sources and the providers of those sources before using them in your courses. In general, look for websites that do not have an agenda other than to provide information. Educational or governmental institution sites often (but not always) fit

this bill.

Last but not least, primary sources can keep faculty and other experts humble. Instructional technology textbooks from the not-too-distant past, for example, discuss uses for overhead projectors and filmstrip projectors. No doubt, what we know today will be old news in the future too.

Patti Shank, PhD, CPT, is a widely recognized information and instructional designer and author who helps others build valuable information and instruction. She can be reached through her website: www.learningpeaks.com. @