



Volume 1, Number 1

# DISTANCE LEARNING

**...A Magazine for Leaders**

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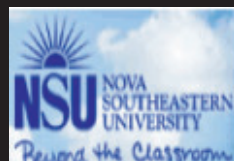
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# Imperial County

## Distance Education Fills a Need

by Michael Baker and Kimberly Klawuhn

According to the United States General Accounting Office, half of the 80,000 public elementary and secondary schools in the nation are located in rural geographies and small towns. While some would argue the case for better quality of life in these smaller hamlets, there's no escaping the fact that geographical isolation can put public schools at a disadvantage.

The most obvious problem for these schools is limited access to resources simply because of physical location. For students, this can mean anything from field trips that enhance the learning process being cost prohibitive to a lack of access to specialized classes and educational support for students with

special needs. For instructors and administrators in these locations, professional development opportunities are limited and can require a great deal of travel to attend. Rural schools also face teacher retention problems because they can't offer competitive salaries. And, because funding is often based on the number of students enrolled in a school and rural schools don't have large student populations, money for everything from facilities repairs to technology solutions is scarce.

California's Imperial County is the textbook definition of rural. It covers 4,597 miles and borders Mexico to the south, Riverside County to the north, San Diego County on the west, and the state of Arizona on the east. It's a vast expanse of remote desert terrain that ranges from 235 feet below sea level to 4,548 feet above, with a population of only 146,000, some of whom live on the Quechan Native American reservation. The county has 17 school districts and 59 schools that serve 36,000 students.

Alan Phillips, a videoconferencing specialist with the Learning Technologies Department of the Imperial County Office of Education (ICOE) has worked with the county's schools for six years and considers his students to be at a disadvantage as compared to their urban and suburban counterparts.

"Imperial County is very large and very remote, which limits stu-

dents' access to resources like experts in different fields, college preparation opportunities, and tutoring. These things have the potential to help not only with students' performance while in school, but also increase the chances that they'll pursue higher education," says Phillips. "Add to that the fact that we're not a rich county and you've got kids who are at a serious disadvantage. For example, recruiters from colleges find it difficult to visit schools in our districts, and when they do, they can't possibly reach every school spread across the 4,500 miles of Imperial County. But, technology like videoconferencing is helping to change that."

### BRIDGING THE GAP

It's been the promise of technology for years to bring fundamental change and foster educational equity in rural communities like those of Imperial County. But when it comes to deploying technology in rural schools, there are obstacles, not the least of which is cost. Many remotely located schools find themselves defeated by these barriers before their technology solutions ever get off the ground.

"When small communities look at deploying interactive technologies to help level the playing field and raise student achievement, the two biggest stumbling blocks are the



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price of the equipment and the cost for the remote connectivity,” says Phillips.

In addition to the initial hardware and ongoing network access costs, for a technology solution to be viable in a rural school system, Phillips believes that it must be reliable, easy to use, and that it can’t be a burden on the already overworked IT staff.

## **A MODEL FOR OVERCOMING ANY OBSTACLE**

When the ICOE Learning Technologies team identified videoconferencing as the best use of its resources for delivering world-class education and professional development opportunities to Imperial County students and faculty, it was faced head-on with each of these barriers, particularly the cost issue.

But the team was determined to find solutions because it knew that videoconferencing had the ability to bridge the geographical isolation Imperial County students live in and bring missing resources directly to the students. In addition, the team believed video would not only make professional education—a requirement for instructor re-certification—more easily attainable, it would increase participation in faculty training of all kinds. By sharing the cost of a lecture by a high-profile speaker among the districts, they hoped to have presenters of this caliber in the county more often and to raise attendance levels at those types of events by allowing faculty to join in from their home districts over video, eliminating the need for travel.

## **WEAVING A WEB OF PARTNERSHIPS**

A targeted communications campaign combined with a number of

strategic community partnerships set Imperial County on the path to a sophisticated IP videoconferencing network.

“Imperial County was awarded a Technology Innovation Challenge Grant from the Department of Education in 1999. With that money we created the BorderLink Project to provide the schools in our districts and four very remote San Diego county schools with greater educational opportunities,” recounts Phillips. “But even with the money in our pocket, our video network wouldn’t be near the scope it is today without the key partnerships that were nurtured in the initial phases of the program.”

The most important partnership the ICOE formed was with the Imperial Irrigation District (IID), the Imperial Valley’s local water and utility company. The IID let the Office of Education use the excess fiber-optic capacity on its network, resulting in significant cost savings for the office. The Office of Education also secured a “pole contact” agreement with the IID. This allows ICOE access to the IID power poles to install cable from site to site as needed and at its own pace without the complications of right-of-way negotiations.

Out of the partnership with the IID was born the Imperial Valley Telecommunications Authority (IVTA), the second most crucial relationship for ICOE’s IP video deployment. The IVTA is a countywide joint powers authority for telecommunications that was created in response to the need for clear agreements between and support from public agencies as the ICOE was building its private fiber optic network. A county ordinance requires communications carriers that are planning to lay fiber in the ground or erect communications towers within the county limits to go before the IVTA to negotiate for public benefit before they will be issued

permits.

This leverage with incoming communications companies has made the ICOE a very powerful force and enabled its IP network to thrive. For example, in a deal brokered by the IVTA, the ICOE is now able to purchase fiber off of the local cable company’s contract at a discounted rate, sending the price of fiber plummeting from \$6 per foot to \$1.20 per foot. Recently, a communications company was in need of permits to lay fiber in the county and through negotiations with the IVTA arranged to give additional fiber to area schools. On another occasion, a major telecommunications company was working in the area and, in order to secure its permits, donated fiber directly to the IVTA, which it warehoused for future use.

Vendor partnerships also proved very important to ICOE. “While some partnerships with vendors amount to little more than sales and projected revenues, we’ve found companies that truly share our vision and want to play a significant role in our mission,” says Phillips.

In addition, the Imperial County Office of Education worked hard to ensure the support of the 17 independent school districts in the county. “Securing buy-in from the individual school districts was crucial,” adds Phillips. “We had to work hard to get all of the parties to understand the potential applications of videoconferencing in their schools. And in the end, they were armed with the knowledge, but also had to be willing to take somewhat of a leap of faith.”

With the fiber-optic infrastructure issues solved and powerful partnerships in place to help ease the cost burden, it was time to address the final hurdles: hardware cost, reliability and ease of use and management.

## **TIMING IS EVERYTHING**

“At the time we received our Technology Innovation Challenge Grant, the migration to IP was in full swing, so we were able to bypass ISDN altogether and deploy a fully IP network,” explains Phillips. “Our vision was for videoconferencing to be an everyday instructional tool in the classroom. If we’d had to rely on ISDN, the recurring line charges for every conference would have been cost-prohibitive.”

The ICOE operates a converged IP network with calls running at a minimum of 384 kbps and up to 2 mbps. The decision to go with IP allowed the ICOE to leverage the school’s existing LAN infrastructure and offer all of the 59 schools in the county the ability to videoconference between sites as often as needed with no line charges.

## **VIDEO IN EVERY CLASSROOM**

In addition to deploying a centrally located large room videoconferencing system at each school, the ICOE had a vision to equip every classroom in the county with video capability. The Learning Technologies team felt strongly that getting video into the classroom was the only way to foster wide adoption and use of the technology, but this belief came with a significant price tag. “We had purchased several of Polycom’s ViewStation FX videoconferencing systems and were pleased with the performance and quality. But we need a more affordable option for deploying in every classroom,” says Phillips. “So, we looked at Polycom’s ViaVideo IP desktop video appliance and, at \$500 per unit, it was the perfect match for our needs. It’s easy to use and install, has the quality we need, and integrates seamlessly with the ViewStation systems.”

To date, the ICOE has deployed

almost 300 ViaVideos. It began its implementation with a top-down approach, outfitting administrator offices first with the technology to get them on board with the initiative. After that, lead teachers, those with a keen interest and proficiency in technology, were added to the roll-out, and now classrooms are being equipped.

ViaVideo is the industry’s only fully integrated, desktop video appliance with embedded video processing technology that delivers high-quality videoconferencing from a PC. In other words, it’s not a standard Web cam. Its high quality makes it ideal for important meetings and student-to-student collaboration. In addition, ViaVideo provides ICOE with flexibility. If a ViewStation system is not available, an instructor can easily use the ViaVideo in his or her classroom to teach.

Polycom’s ViewStation FX videoconferencing systems have been deployed in all eight of the county’s high schools as well as the four San Diego county high schools that are part of the network. This means that if a ViaVideo does not meet a teacher’s needs, as for a large meeting in an auditorium, they can simply roll in a ViewStation.

For data collaboration capabilities, the ICOE uses Polycom’s Visual Concert, which enables the live sharing of PC content during a video call. During meetings or classes, PowerPoint presentations or Mimio Electronic Whiteboard content can be shown to remote sites with the push of a button.

## **INTEGRATED INFRASTRUCTURE AND MANAGEMENT**

The ICOE has also deployed multipoint functionality and management systems from Polycom to enable calls between multiple video

endpoints and to keep the management of the systems as easy and inexpensive as possible.

Polycom’s MGC-100 multipoint control unit (MCU) allows the ICOE IP videoconferencing systems to connect seamlessly with multiple systems during the same call regardless of call speed.

The ICOE uses the Polycom PathNavigator advanced gatekeeper to help keep network costs in check. Features such as intelligent call routing automatically identify and implement the cheapest route and the most effective bandwidth utilization for any video call.

Polycom’s Global Management System software allows the ICOE team to manage the entire deployment of Polycom ViewStations and ViaVideos from a central location. This includes the ability to update all of the systems simultaneously and also allows a centralized address book for all of the endpoints.

For its network security needs, including firewall and NAT traversal, the ICOE relies on an integrated Ridgeway Systems secure communications server. This enables, transparent to the user, calls through network firewalls.

“From the endpoints to the infrastructure, Polycom has provided an end-to-end solution that meets our needs for the seamless integration of our 300-plus endpoints with advanced management features that keep costs down,” says Phillips. “And with the management systems we have in place, there’s very minimal impact on our already-overburdened IT departments, and schools don’t have to worry about the technology at all. Those two factors are very important to the success of the program.”

## **VIDEO IN ACTION**

The community partnerships and technology solutions the ICOE put together are more than enough to



make the organization a national model for distance learning, but that's just half the story. The applications it's enabled through video directly affect the lives of the students and teachers in the county.

To kick off the video program, the Learning Technologies team organized an "Innovative Video Project" award opportunity funded by the BorderLink Project. It offered a ViaVideo and \$600 to faculty who submitted their best ideas for using videoconferencing technology.

One of the award recipients was a high school counselor who used her ViaVideo to bring college recruiters to her remote school. The counselor contacted prestigious universities around the country and then mailed them the ViaVideo unit. This enabled her students to meet with the school's recruiter over video, an opportunity that would otherwise be unavailable.

Another creative recipient used her ViaVideo to deliver French classes to students in her high school. In Imperial County, Spanish is the major foreign language offered to high school students because it is the most practical, given the county's proximity to Mexico and large Latino population. When a group of students found out one of their teachers was fluent in French, they approached her about teaching a class. The teacher organized a lunchtime French club that connected the students through the ViaVideo to the French Language Institute in France and, at the end of 12 weeks, they received one unit in conversational French on their transcripts.

The BorderLink Project funded 19 different projects and the Learning Technologies team will be running the program again in 2004.

## **HELPING HIGH SCHOOL STUDENTS GET AHEAD**

Innovative programs are being implemented every day using video in high schools all over the county. Community college courses are offered at many campuses as concurrent enrollment for high school students, giving them a head start on college. And a video workshop given by an SAT preparation specialist showed high school teachers how to get their students ready for the test.

At Calexico high school, students went through a unit on the Holocaust and, upon completion, took a virtual field trip to The Museum of Tolerance in Los Angeles. "It was a very emotional experience for the students, lots of tears," says Phillips. "They were talking live with an actual survivor of the Holocaust. You just can't get that deep an experience from a text book."

Students in need of specific courses are also served by the video network. San Pasqual high school, located on the Quechan Native American reservation along the Arizona border, was lacking a humanities course. An instructor from another Imperial Valley high school was able to very effectively teach music appreciation remotely using the ViewStation system with Visual Concert for whiteboarding and displaying dual images. When word of the success of the program got out, two additional high schools joined in.

In another instance, a high school senior needed to take geography in her last semester in order to graduate, but the class wasn't offered again until the following fall. She was able to join a geography class at another school through video for the semester and earn the credits she needed.

## **REACHING YOUNG MINDS**

Video is also starting to be deployed in Imperial County elementary schools, enabling activities like poetry classes for English Language Learner students and virtual field trips to places like the Adventure Science Center in Tennessee where kids can learn about subjects like magnetism.

In addition, every year the National Education Association sponsors the Reading Across America program, in which a high-profile person or community dignitary reads his or her favorite Dr. Seuss book to elementary school classes. Normally, only one Imperial County school can participate because the readers' schedules don't permit them to travel the distance of the county to visit all of the schools. But, thanks to videoconferencing, five schools were able to participate this year and hear stories read by a local television reporter and the superintendent of schools.

## **SAVING MONEY AND TIME**

The administration and faculty in Imperial County are huge proponents of video for saving travel time and money on everything from meetings to guest lecturers to professional development. On one state-wide superintendents meeting alone, Phillips conservatively estimates the savings in travel and time away from work to be \$18,000. And as an added bonus, participation increased because attendees didn't have to travel for the meeting.

Attendance at all of the events Imperial County holds has been up since video was implemented. When the new state superintendent of education was speaking in San Diego, one or two faculty members would have made the drive to see him but, thanks to video, 40 people were able to see and hear him speak.

On another occasion, videoconferencing saved the day for faculty attending a professional development seminar. Curriculum specialist Dr. Robert Marzano was scheduled to fly in from Denver to give a lecture but a blizzard made it impossible for him to leave Colorado. The Learning Technologies team was able to quickly arrange for the lecture to be presented over video and was even able to add Orange, Los Angeles, and San Diego counties at the last minute.

## **FUTURE**

Looking forward, Phillips sees exciting challenges and the opportunity for expansion of the Imperial County video network. He'd like to see video deployed further in elementary schools and also extended to include city and county government and hospitals.

The ICOE has also received a grant to study the feasibility of implementing Voice over IP (VoIP). VoIP could mean significant cost savings for the county as calls

between the schools are long distance, and VoIP would eliminate the toll charges.

The Imperial County Office of Education is a study in perseverance. The Learning Technologies team has demonstrated that good ideas can be turned into viable programs that impact the lives of the community through strategic partnerships, organizational support, and a lot of ingenuity, despite having limited resources.

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# Learning Online

## Adapting the Seven Principles of Good Practice to a Web-based Instructional Environment

by **Christine K. Sorensen** and **Danilo M. Baylen**

**I**ncreasingly, colleges and universities are offering courses on the Internet, and enrollments in online learning opportunities are soaring. Research on distance education in general, including online learning, indicates that students can learn effectively in technology-mediated environments. Growth in online, or virtual, education is expected to continue. However, we

are just beginning to examine the impact of these technologies on pedagogy. Some argue that these technologies will transform the way learning occurs in college classrooms, both traditional and online (Newman & Scurry, 2001). While some point to earlier technologies (overhead projectors, films, television) and claim that such transformations are overstated, those earlier

technologies did not actively engage students in the learning process, something that Internet and Web-based technologies can do (Newman & Scurry, 2001).

### TECHNOLOGY AND TEACHING

While technologies, such as the Internet, can be used to perform routine and traditional tasks (providing syllabi, linking to readings, providing communication channels), they can also be used to implement teaching methods that are as effective or more effective than traditional lecturing. Newman & Scurry (2001) discuss how online technologies can engage students in active learning through software that allows hands-on experiences, such as “virtual labs.” Computer-based simulations can help connect learning to real life. Students can gain access to massive amounts of information, including graphics, pictures, and videos, in addition to text-based materials. Teaching styles can be tailored to individual student needs as the technology provides mechanisms for faculty to access student profiles and compare student performance.



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The role of the faculty member changes from that of the source of all information to a learning coach, providing greater individualized attention and allowing students to choose from a variety of online possibilities. Students can easily retrieve and review material. And, technologies such as virtual-reality allow students to gain early experiences in a safe setting (Newman & Scurry, 2001).

As online technologies become more prevalent in society, traditional classrooms and online courses may begin to look more and more alike as both incorporate active learning strategies and online resources. As technologies continue to improve and to become more available to the masses, students will begin to expect their use in learning environments. Higher education must face this challenge, and faculty must become proficient in the use of technologies. However, just using the technology is not enough; faculty must use it in ways that truly enhance learning. Faculty must engage in sound pedagogical practices in a new, technology-based environment.

These pedagogical practices may be better aligned with what is known about adult learning, or andragogy (Robles, 1998). Andragogy implies a more equal and reciprocal relationship between the student and teacher and uses more variety in methods. Andragogy allows for the interests and needs of the learner and deliberately introduces experiential, collaborative, and interactive learning strategies. The principles of andragogy seem consistent with what has been identified as principles of good practice in collegiate education.

## **PRINCIPLES FOR GOOD PRACTICE**

The “Seven Principles for Good Practice in Undergraduate Educa-

tion” were first published in 1987 by the American Association for Higher Education. The “Seven Principles” evolved as a result of a sponsored Wingspread meeting attended by Alexander W. Astin, Howard Bowen, Carol M. Boyer, K. Patricia Cross, Kenneth Eble, Russell Edgerton, Jerry Gaff, Joseph Katz, C. Robert Pace, Marvin W. Peterson, and Richard C. Richardson, Jr. and emerged from a study supported by the American Association of Higher Education, the Education Commission of the States, and the Johnson Foundation (Chickering & Ehrmann, 2003; Chickering & Gamson, 2003; Winona State University, 2003). The “Seven Principles” form a sound model for quality collegiate instruction. While these principles have formed a foundation for traditional classroom instruction, it is important to consider them when developing and designing instruction in technology-based environments.

The “Seven Principles” are general enough in their perspective that they can be adapted to many learning environments. They support the notion that good teaching is good teaching. They describe some essential components that are important in effective learning environments. The “Seven Principles of Good Practice”:

1. encourage student-faculty contact
2. encourage cooperation among students,
3. encourage active learning,
4. give prompt feedback,
5. emphasize time on task,
6. communicate high expectations, and
7. respect diverse talents and ways of learning.

The authors of the “Seven Principles” document assert that student motivation, involvement, and intellectual commitment result from student-faculty contact both in and out

of class. They maintain that creating collaborative, cooperative learning environments increases student involvement in learning, enhances the sharing of ideas, and improves understanding (Winona State University, 2003; Chickering & Gamson, 2003). “Good learning, like good work, is collaborative and social, not competitive and isolated” (Chickering & Gamson, 2003).

Active learning is a key in the “Seven Principles.” “Learning is not a spectator sport” (Chickering & Gamson, 2003). Students need to do more than take lecture notes and memorize facts. Active learning incorporates past experiences, requires application, and allows students to talk about and write about what they are learning (Winona State University, 2003; Chickering & Gamson, 2003).

Timely feedback and time on task are other essential components of a good learning environment. Students need frequent feedback and suggestions for improvement and assistance in learning to assess their own performance, including opportunities to reflect. Students must also learn to use time effectively. According to Chickering and Gamson (2003), “there is no substitute for time on task” and “time plus energy equals learning.”

High expectations for students can become a self-fulfilling prophecy, thus setting appropriate learning goals contributes to a successful learning environment (Chickering & Gamson, 2003; Winona State University, 2003). Appreciating and recognizing individuality, allowing students to learn from their strengths while still pushing them to learn in new ways can enrich learning opportunities (Winona State University, 2003). “There are many roads to learning” (Chickering & Gamson, 2003) and a positive learning environment acknowledges these various paths.

## APPLYING THE "PRINCIPLES" TO A WEB-BASED ENVIRONMENT

We talk in higher education about the profession of teaching, and about our obligation to making knowledge available to others. As Lee Shulman (2000) states, "... teaching, fully understood, is an extraordinary process . . ." (p. 6). We in the profession also have an obligation to study teaching and share our knowledge with others as we seek to enhance student learning (Hutchings, 2000). This article provides suggestions and strategies for incorporating the "Seven Principles of Good Practice" into online learning environments based both on the literature and on the authors' six years of online teaching experience, both developing and delivering online instruction. Using methods recommended by Angelo and Cross (1993) for examining teaching practice, the authors learned from experiences teaching in Web-enhanced

traditional classes as well as delivering full online courses.

### PRINCIPLE 1: STUDENT- INSTRUCTOR CONTACT

Student-instructor contact can be encouraged through a variety of strategies, including setting up specific communication structures that allow for both social and academic contacts as well as mechanisms for information distribution. Chickering and Ehrmann (2003) note that using communication technologies can increase student access to faculty, promote resource sharing, and encourage shared learning. They note that interactions are particularly strengthened for shy students who may be reluctant to speak openly in class and for commuting part-time students whose opportunities for face-to-face interactions are constrained by work and family obligations. Both synchronous and asynchronous communication can be used successfully.

Electronic mail, computer conferencing, and the World Wide Web increase opportunities for students

and faculty to converse and exchange work much more speedily than before, and more thoughtfully and 'safely' than when confronting each other in a classroom or faculty office (Chickering & Ehrmann, 2003).

Chickering and Ehrmann also maintain that these media allow more equitable and widespread participation from diverse students.

The authors of this article have identified several successful strategies in teaching in a Web-based environment for encouraging student-faculty contact and increasing interaction. One of the most important lessons was in how to set up asynchronous communication spaces to accommodate different learner needs. After several years of experimentation and student feedback, a structure was designed to allow for five discrete areas of communication within an asynchronous Web environment such as WebBoard, Embanet, Blackboard, or WebCT. These five areas included:

1. announcement space,
2. question and answer space,
3. content discussion space,



FIGURE 1. Opening page of a course where students can access information about course content, instructions about different activities, and various ways of communicating with the course facilitator and students.

4. social space, and
5. team space.

These areas are set up to address specific needs.

Announcement space is used for instructor messages to the students. This might include reminders, instructions, additional connections to online resources, and class announcements (for example, class cancellations due to weather). Students are instructed to check this area routinely.

Question and answer space is designed to address questions students may have about course content or about assignments. If one student has a question or is unclear about something, odds are that others in the class are experiencing similar questions or concerns. Thus, rather than individually emailing the instructor questions, students are instructed to post their questions in this space. The instructor checks the space daily and provides answers to the students' questions or expands on explanations that it appears may be unclear to students.

Content discussion space is an area set aside for graded discussions. In this area, the instructor posts topics for group discussion or poses questions to initiate group interaction. Students are required to respond during a set time period and a grading rubric is provided that sets expectations for interactions in this space. Levels of communication and levels of interaction (see Baylen & Sorensen, 2002) are established.

Social Space (often named, e.g., the Coffee Shop, the Courtyard, etc.) was added to encourage non-formal interactions between the instructor and the students and among the students. The instructor observed that content-related course space was often sprinkled with personal information and messages between students or non-course-related questions to the instructor. To keep the other areas focused and yet not discourage this informal "chatter," the

instructor instead set up a space especially for this purpose and, indeed, encouraged students to participate. It was found that such spaces enhanced the sense of community established in an online class.

Team space was the final area established. Students were assigned or selected teams during courses taught by the instructor. Each team named itself, and a separate (and private) discussion area was established for each team. Communication about team assignments could occur in the team space. The instructor could interact with the team on issues connected to the team's work. Team space often included a chat area as well that allowed for real-time student interactions on tasks and projects.

In addition to setting up specified spaces in the online environment, the instructor also used other methods to encourage student-instructor contact. Students were given information to allow individual contacts with the instructor via email or telephone. The instructor also set up regular chat office hours. These hours varied by day of the week and by hour, allowing for differences in students' schedules. Day and evening hours, weekday and weekend hours were used. Finally, e-journaling was used in several classes. Students were required to submit weekly reflective journals using email or assignment submission tools (e.g., in WebCT) that maintained privacy and were not available for classmates to review. These journals were read by the instructor and comments were returned to the students.

One strategy that proved particularly effective in a completely online course was a mid-term telephone contact made by the instructor. Each student was called by the instructor for a mid-point "check." Students were asked how their assignments were coming along, whether they

had any questions, and whether they had any concerns about the class. End-of-course evaluations indicated that students truly appreciated this contact and that it enhanced their perception of the level of interaction between the student and the instructor.

## **PRINCIPLE 2: COOPERATION AMONG STUDENTS**

Technology-based communication tools can facilitate cooperation among students, opening up communication channels among classmates who are not physically together (Chickering & Ehrmann, 2003). Cooperative strategies used in traditional classrooms, such as study groups, group problem solving, and assignment discussion, can also occur in an online environment. The authors of this article have found several teaming strategies that promote cooperation among students in an online learning environment.

Reciprocity and cooperating in an online course can be enhanced through the development of teams and team identities. Depending on the nature of the course, teams can be assigned or students can self-identify teams. To create a team identity, teams were asked to name themselves. Over several courses, teams came up with such titles as "Sneakers," "Four Gals and a Guy," "Negative Space," and "Superstars" to name a few. Teams were also encouraged to develop a visual representation, icon, or graphic to place on the Website as a team identifier. This, too, enhanced team identification among the team members.

It is important for instructors to realize that students may not understand how to operate in an online team, nor understand the dynamics of group processing. Setting up team expectations, roles for individuals in the team, and team evaluation and monitoring processes are key ele-

ments in developing effective teams. Initial orientation to team work is generally necessary. We have found it useful to outline expectations for team behavior. These expectations can be developed by the whole class or by the instructors and provided to the class. Expectations that we have found useful include such things as "all team members participate in online discussions and no one person dominates." Depending upon the tasks or group assignments for which the team is responsible, defining and assigning such roles as facilitator, recorder, summarizer, process manager, timekeeper, reporter, and instructor liaison may be useful.

Two mechanisms have been found useful for monitoring the group process. A student assigned as process manager has the responsibility to report group difficulties to the instructor and seek guidance in strategies to move the group forward. In one case, this person reported an interpersonal interaction that required instructor intervention. A second mechanism is to ask for periodic feedback from group members related to the functioning of the team and for evaluation of their individual and peer contributions to the team. We have developed an online tool that students complete at midpoint in the class to assess the functioning of the team. In addition to evaluating the functioning of the team, we have found it important to assess individual accountability in the team's performance. Thus, we request each team submit with assignments a summary paragraph briefly outlining each team member's contribution to the final product. The instructor retains the ability to adjust an individual's grade (e.g. an individual may receive a grade higher or lower than the overall group grade) on the basis of the individual contribution to the group project.

As mentioned earlier in this article, providing teams with private

space, both asynchronous and synchronous, can facilitate group interactions. Which spaces are used by the team typically depends upon the nature of the group assignment. Types of assignments we have used include: development of a case study, analysis of a case study, problem-solving assignments, development of a group presentation (generally using PowerPoint with audio/video components) that can be shared online, peer review of individual assignments, and sharing of resources (for example, sharing URLs for useful Websites, or sharing citations and abstracts for articles).

Building a sense of community in the online class contributes to cooperation among students. The authors have used several strategies to try to enhance community. Students can be asked to provide introductory emails to the class or to develop their own Web pages with photographs to share with the class. Icebreaker games can also be used to introduce students to one another. One game we have used asks students to email to the instructor one thing no one else in the class knows about them. The instructor then makes a list of these items. A class assignment is to try and figure out which item goes with which classmate. Students can make use of the social space described earlier to ask questions that may help them identify their classmates.

### **PRINCIPLE 3: ACTIVE LEARNING**

Active learning uses procedures that increase student participation in the learning process (Kochery, 1997). A tremendous range of strategies can be used in traditional classrooms to involve students in active learning. Some of these strategies can be adapted to online environments, and online environments can also take advantage of technologies to engage students in the learning process. Evidence indicates that stu-

dents actively involved in learning remember more and remember it longer than when they are engaged in passive listening activities (Newman & Scurry, 2003). Some claim that, unlike earlier technologies such as overhead projectors, films, and television, technologies available in an online world have the capacity to engage students in active learning (Newman & Scurry, 2003).

Active learning techniques can be experiential, hands-on, participative, or inquiry-based. Active learning strategies can include such things as animations, virtual labs, graphing technologies, role playing, problem- or project-based learning, case studies, portfolios, analysis activities, debates, virtual field trips, games, online expert interviews, reactor panels, structured online discussions or reflections, and more. The authors of this article have incorporated these active learning strategies into their courses. For the purposes of this article, only two of these strategies will be described, one targeted to individual students and one to teams of students.

The first example is a way to engage individual students in structured online discussions. Each student may be assigned a topic (or students may be allowed to choose a topic) related to the course. The student then poses a question on the discussion board. Other students in the class (either the entire class or a portion of the class depending upon the enrollment) must respond to the question and engage in a discussion. The student who posed the question is responsible for moderating the discussion and for contributing additional Web links to information on the topic. After a pre-assigned time period, typically one week, the student who posed the question is responsible for synthesizing and summarizing the key points of the discussion and posting the summary for the entire class. This summary may be graded. In addition, students



may be asked to write a personal reflection on the experience and email it to the instructor. We have found this strategy to be most effective in an asynchronous environment, although we have used it in a modified form in a synchronous chat environment as well.

The second example has been used to engage small groups of students in analysis of case studies. Each small group is assigned a case study for development and analysis. After the small group has analyzed the case, they are asked to present the case to the larger group using a Web page or downloadable format. Using a rubric and criteria provided to the class, a second group is asked to critique the original group's response to the case study. The original team is then asked to provide a response. Again, we have found the

case study format to be most effective in the asynchronous environment; however, an alternative may be a live chat discussion of the case following the analysis and critique.

The opportunities for developing active learning strategies in an online environment are as plentiful as in a traditional teaching environment. While we have provided two fairly simple strategies, the variations and variety of techniques possible are constrained only by the instructor's imagination.

#### PRINCIPLE 4: PROMPT FEEDBACK

"Knowing what you know and don't know focuses learning" (Chickering & Gamson, 2003). According to Chickering & Gamson (2003), and Chickering & Ehrmann (2003), students need appropriate

feedback, frequent opportunities to perform and receive suggestions to improve, chances to reflect on their learning, and assistance in assessing themselves. Establishing mechanisms for acknowledgement of assignments or assignment receipt protocols is important in enabling prompt feedback in online environments. We have found students demand immediate feedback in an online course, often emailing repeated messages asking whether an assignment was received or whether the instructor feedback is completed.

The authors have used several strategies to ensure prompt feedback in an online course. Students in the online course are required to submit assignments electronically, either via email attachment or via an assignment support tool available in the

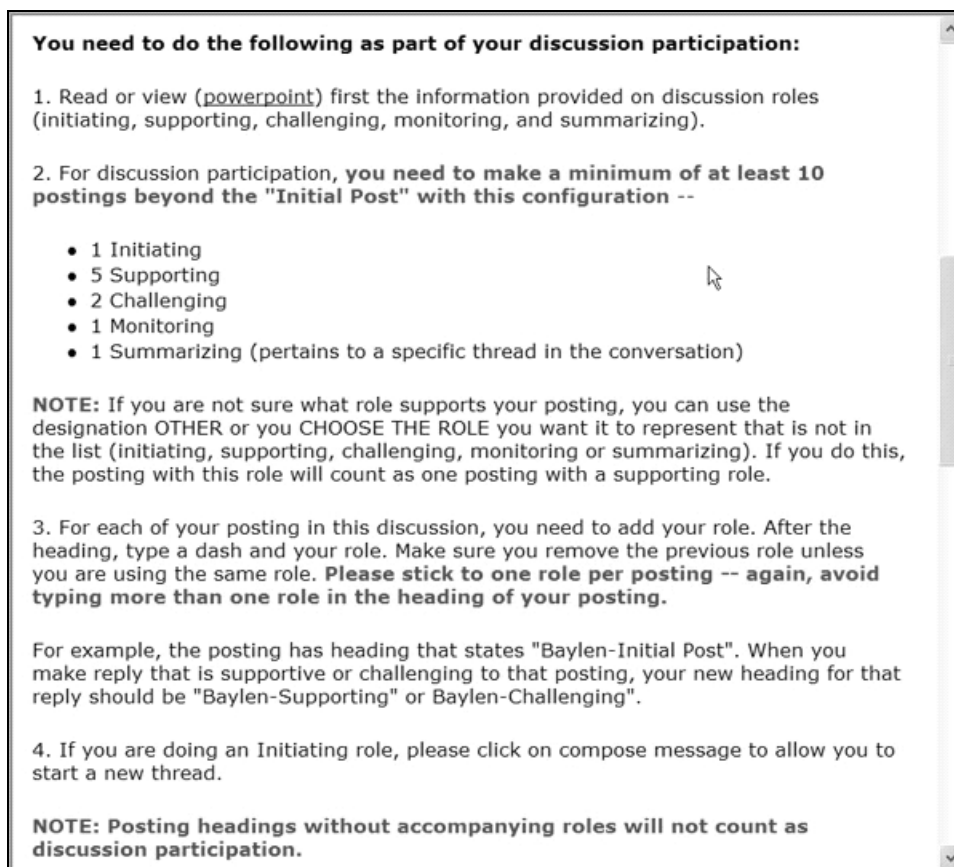
A screenshot of a web page with a white background and a thin black border. The page contains instructions for discussion participation. At the top, a bold heading reads: "You need to do the following as part of your discussion participation:". Below this, there are four numbered steps. Step 1: "1. Read or view (powerpoint) first the information provided on discussion roles (initiating, supporting, challenging, monitoring, and summarizing)." Step 2: "2. For discussion participation, you need to make a minimum of at least 10 postings beyond the 'Initial Post' with this configuration --" followed by a bulleted list: "• 1 Initiating", "• 5 Supporting", "• 2 Challenging", "• 1 Monitoring", and "• 1 Summarizing (pertains to a specific thread in the conversation)". Step 3: "3. For each of your posting in this discussion, you need to add your role. After the heading, type a dash and your role. Make sure you remove the previous role unless you are using the same role. Please stick to one role per posting -- again, avoid typing more than one role in the heading of your posting." Below step 3, there is an example: "For example, the posting has heading that states 'Baylen-Initial Post'. When you make reply that is supportive or challenging to that posting, your new heading for that reply should be 'Baylen-Supporting' or Baylen-Challenging". Step 4: "4. If you are doing an Initiating role, please click on compose message to allow you to start a new thread." At the bottom, a bold note reads: "NOTE: Posting headings without accompanying roles will not count as discussion participation." The page has a vertical scrollbar on the right side.

FIGURE 2. This is a set of instructions for students to follow as they participate in a specific online discussion in a given course.

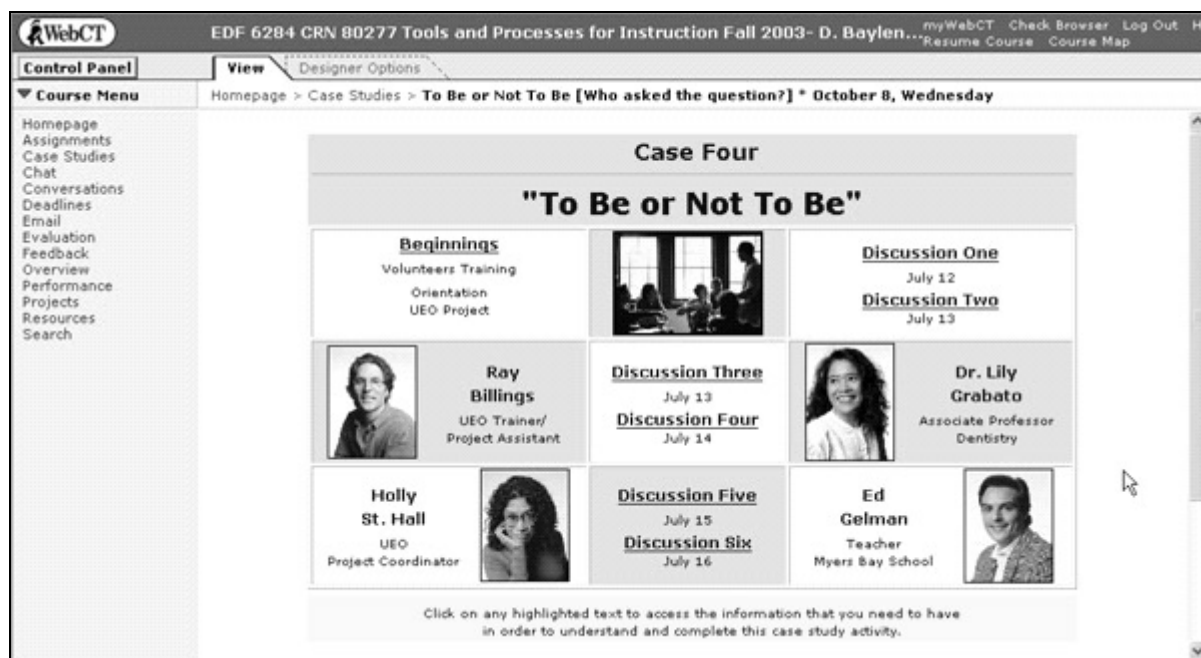


FIGURE 3. Case studies are set up (like the one above) to facilitate active learning, problem thinking, and teamwork among students enrolled in a course. In this example, the case study is a non-linear fashion where students can choose to access information that they believe can support the direction they are heading in finding solution to a problem.

course environment (e.g. WebCT or Blackboard have secure areas where students can submit work). Guidelines are provided to students indicating that the instructor will acknowledge receipt of the assignment within 48 hours of submission. This is typically done via email. Students are asked not to contact the instructor with a question about whether the assignment has been received unless 48 hours have passed and no acknowledgement has been received. Not only does this reduce the number of panicked emails sent by students who want assurance the assignment has been received, but it also provides documentation of assignment receipt. Students are provided guidelines on when to expect instructor feedback on the assignment, typically a one-week time period. Students are asked not to contact the instructor about feedback unless the week is past and no feedback has been received. Giving students guidance on the turnaround time to expect for assignments helps

reduce their anxiety level and decreases the number of individual emails directed to the instructor. Such guidelines for timeliness of responses also are useful related to online discussions and responses to general emails in addition to assignments.

Technology can assist the instructor in providing prompt feedback. We have found it useful to set up protocols for assignment submission, such as appropriate software package and version to use (e.g. Word 97 or higher) and how to name the file (e.g., E Smith assignment 1). This enables the instructor to more easily manage the files and better track submissions. Editing tools, for example, those available in Word, can be used to embed feedback to the student. "Hidden" comments can be embedded using options in the word processing program. We have found that, with brief instructions, these editing tools and "hidden" comment functions can be used for peer reviews as well.

While it took some time for the instructors to become used to reading and commenting on assignments that were not printed, we have found that managing assignments electronically and responding electronically now saves us time and that we are able to more quickly provide feedback to students.

With the move to electronic management of assignments, we have also found it easier to provide students with early feedback and revision options. For some assignments, students are allowed to respond to the initial feedback with a second draft (E Smith assignment 1 revision) in order to improve their performance.

In the online environment, we have found that students often seek more and prompt feedback than in a traditional classroom. We have posited that perhaps this is due to the lack of visual cues for the students to rely on in the classroom, or the loss of a particular classroom time (e.g., Mondays from 9-10 a.m.)

when students in traditional classrooms can request or expect feedback from the instructor. Students in an online class seem to have a tremendous need for feedback, constant feedback.

## PRINCIPLE 5: TIME ON TASK

Learning to use time well is critical for students, and they often need assistance with effective time management and allocating realistic amounts of time for specific activities (Chickering & Gamson, 2003). Technologies can help students manage time and can document student time on task. Time on task can be focused through the use of tools that can track student participation. Most course delivery tools such as WebCT or Blackboard have tools that allow instructors to monitor when students are accessing materials and for how long. Students can be shown how to use these tools to monitor their own behaviors. In addition, instructors can look at threaded discussions to determine participation levels of individual stu-

dents. A number of other strategies have been found useful to keep students focused and on task.

Setting up frameworks for discussions and protocols for interactive time can keep students focused. For example, for asynchronous discussions, setting up specific dates for the beginning and end of the discussion (when postings are allowed) ensure that students participate in a timely manner. For synchronous discussions, or even telnet time that might be used in the course, we have found it useful to set time expectations and a framework for discussion initially. For example, a framework might be established that the first five minutes of time would be spent with the instructor presenting information, followed by 15 to 20 minutes of discussion, and concluding with 15 minutes of application or connection to real-world contexts. Setting time limits keeps the activities moving and keeps students focused. Limiting the numbers of students in chat rooms also can keep discussions better targeted. The

experience of the authors would indicate that chat rooms with 5 to 10 participants are manageable.

Using organizational strategies and teaching them to students can assist students in maintaining focus in the class. Strategies such as the use of online calendars, organization of online files, posting reminders for events or assignment due dates, sending email reminders, and the use of checkpoints to determine whether students are adequately moving through the materials can be important in maintaining attention. Online calendars can be effective in reminding students of assignment dates, dates of synchronous chats, dates when asynchronous discussion topics are open, dates by which materials are to have been reviewed, and more. Posting reminders in the "instructor" space described earlier in this article can be effective if students adhere to instructions to check that space regularly. An email reminder may be used to remind students of an assignment or to notify a student that an assignment has not



FIGURE 4. The search function of the course management system (WebCT) used in this particular allows students to monitor their participation in the different online discussions. Students reported that they find this WebCT feature helpful in getting them organized with the task at hand.

been received. Checkpoints can be used in two ways. One way is to provide the students a summary of what assignments have been received and where they are in terms of progressing through the course at specified points in time. We have done this through an email with a table attachment. A second way is to require students to self-evaluate at specific points in the course and summarize their progress.

How the materials are structured in the course can also affect time on task. Using course mapping or indexing helps students to see the course as a whole and identify where they are in terms of the course. Arranging the course in discrete units focused on particular topics

and establishing guidelines for completion of the units keeps students focused. In general, online courses that provide access to instructor notes, PowerPoints, additional exercises and activities, and links to resource materials encourages students to spend additional time with the content. Students have ready access to materials and can review materials on their own time if they are having difficulty with a particular concept or unit.

## PRINCIPLE 6: HIGH EXPECTATIONS

“Expect more and you will get it” (Chickering & Gamson, 2003). It is important to set explicit expecta-

tions for students in an online instructional environment. Setting appropriate goals for both online behaviors and academic performance can contribute to a successful learning experience for all students. The authors have found a number of strategies to be effective in communicating high expectations in an online class.

First, students seem to need more detailed information in an online class than in a face-to-face class. We recommend use of online study guides that include detailed information about the course, including course objectives; course, department, college and university policies (sometimes accessed through links to the relevant documents); assign-

### 5B. Discussion Synthesis and Reflection - Case 4

Last day to post in Conversation: October 18, Saturday

**Part 1. Synthesis Paper** -- As a group and with the leadership of your discussion facilitator, you need to prepare a synthesis paper (minimum 2 page, maximum 5 pages) of what your group discussed given the 3 guide questions --

- What did this case study miss to address given the instructional design concepts and principles presented in the Piskurich book?
- How will you go about teaching the major concepts and principles addressed in this case study to a group of 20 Thai, Saudi Arabian, Swiss, and South African adults?
- Based on your reflections of this learning experience, how come many of our experiences in university and college settings end up as lectures by faculty members?

**Part 2. Reflection Paper** -- Each group member will take the synthesis paper that the group put together and add his/her own reflection (at least a page, maximum 3 pages) using the following questions as guide --

- How similar or different is this learning experience from the first 3 case discussions?
- In what ways did this experience enhance or hinder the acquisition of new knowledge and skills pertaining to instructional design?
- How did the shared websites and online articles contribute to expanding your knowledge base as an educational technologist, instructional developer, and/or facilitator of learning?

3. Finally, **add as a separate page a list of selected references** (at least 3 websites and 3 online articles) that were shared by your group members during the case discussion that strictly follows an APA format.

FIGURE 5. The example above demonstrates how students can be engaged in reflective practice (reflection paper), higher-order thinking (synthesis paper), teamwork, and evaluation of online resources.

ment information; performance expectations; the basis for grading in the course; and sample grading rubrics. Students have a high need for structure in an online course. This need can be partially met though detailed information provided as part of the course.

We have used very detailed assignment instructions, often with links to resources (such as the APA rules) embedded in the instructions. Each assignment will have defined levels of performance expectations with rubrics for assessing individual or group performance. We have even developed rubrics for assessing the quality of online discussions. These rubrics demonstrate acceptable levels of performance. Providing links from the rubrics to sample documents or sample discussions that demonstrate various levels of performance (high performance versus adequate performance versus low performance) clarifies expectations. In setting expectations for online discussion, it is useful to define the types of responses you wish students to make, such as analysis, synthesis, application, and evaluation, and to post sample comments that reflect these levels of communication.

Using criterion-referenced grading communicates high expectations for students, as does allowing for revision of assignments in order to reach higher levels of performance. As mentioned earlier, technology can enable faster turnaround time for assignments and opportunities to revise papers and projects. Setting up clear communication expectations, also described earlier, and posting expectations for online etiquette in both synchronous and asynchronous environments, can assist students in meeting high expectations for behavior in the online class.

## PRINCIPLE 7: DIVERSE WAYS OF LEARNING

The final principle of good practice respects diverse talents and ways of learning. Students need the opportunity to learn in ways that work for them (Chickering & Gamson, 2003). Chickering and Ehrmann (2003) point out that technological resources can provide

... for different methods of learning through powerful visuals and well-organized print; through

direct, vicarious, and virtual experiences; and through tasks requiring analysis, synthesis, and evaluation, with applications to real-life situations. They can encourage self-reflection and self-evaluation. They can drive collaboration and group problem solving.

As an online instructor, a variety of strategies can be used to address the diverse ways in which students learn. Providing tasks that require students to analyze and evaluate information can be accomplished online just as well as in face-to-face settings. Assignments that require application of concepts can be developed. The use of self-evaluation activities and activities that require collaborative group problem-solving address different needs for students. Online environments can provide activities that appeal to visual as well as aural learners. A key to addressing diverse learner needs is to provide a learning environment that includes options within structure. Individual assignments and the ability to move through topics at one's own pace appeal to some learners. Group

Topic	Unread	Total	Status
Main	3	6	public, unlocked
Notes	0	0	public, unlocked
Bulletin Board - READ ME FIRST!	1	10	public, unlocked
Student Lounge	0	35	public, unlocked
1A. Introductory Write Up ONLY Due 8/29	0	19	public, locked
1B. Response/Discussion to 1A ONLY from 8/30 to 9/5	0	254	public, locked
2. Class Case 1 Discussion from 9/8 to 9/15	88	422	public, locked
3A. Case 2 Discussion from 9/16 to 9/22	70	170	private, locked
3B. Case 2 Discussion from 9/16 to 9/22	136	146	private, locked
3C. Case 2 Discussion from 9/16 to 9/22	112	149	private, locked
4A. Case 3 Discussion from 9/26 to 10/4	75	183	private, locked
4B. Case 3 Discussion from 9/26 to 10/4	71	122	private, locked
4C. Case 3 Discussion from 9/26 to 10/4	42	136	private, locked
5A. Case 4 Discussion from 10/8 to 10/15	0	5	private, unlocked
5B. Case 4 Discussion from 10/8 to 10/15	9	12	private, unlocked
5C. Case 4 Discussion from 10/8 to 10/15	8	8	private, unlocked

FIGURE 6. The sample above illustrates different ways students build a sense of community in this course—from public spaces such as bulletin board and student lounge to private spaces for small group case discussions.

activities and projects and the ability to get peer feedback appeals to other learners. All can be accommodated in an online learning environment.

In our experience, accommodating diverse ways of learning can also mean accommodating cultural differences. In teaching an online class with international students, instructors must be aware of differences that may affect learning. Use of certain language or terminology can create miscommunication in terms of meaning. Phrasing can create misinterpretation of tone. In some cultures, deadlines can be misunderstood as time is interpreted differently. And the nature of the relationship between students and between student and instructor may vary and be more or less formal.

## CONCLUSION

Implementing the Seven Principles in online courses can require teachers to overcome obstacles, to develop new strategies, and to look at their craft from new perspectives. Doing so can lead to an improved student experience and to enhanced learning. These principles were not developed for online environments, but they can be adapted and applied to multiple learning environments. We hope that the ideas we have presented here may benefit others as

they seek to provide a learning-rich environment online.

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# The Dotcom Bust

## A Postmortem Lesson for Online Education

by Kaye Shelton and George Saltsman

America loves excitement, and the dotcom revolution provided just that. The dotcom boom, which began in the mid-nineties, launched with as much fanfare as a popular NASCAR race. With a crowd of excited, cheering fans, the dotcom companies entered the race with initial public offerings (IPOs) that granted valuations in the billions. Rounding the track at inconceivable speeds, these companies, driven by their young, charismatic CEOs, sprinted into the “new

economy” without a moment’s hesitation. The dotcoms were fueled by something even more volatile than high-octane gasoline—pure, unrestricted cash. New phrases like “burn rate” and “flameout” were invented just to describe the speed at which these fledgling enterprises would consume venture capital. And just like a stock car race, many of these spun out of control, resulting in a spectacular crash that brought the crowd of curious spectators to its feet. As the race continued,

America grew intoxicated by the mayhem and wreckage as the biggest names in e-business found their chance for winning the dotcom prize dashed in a twisted, smoldering wreckage of a company. By the end of 2000, the race was over and bankrupt dotcoms littered the landscape. The speculative bubble on Wall Street had burst, and the economy entered a downward turn that saw \$2 trillion of stock market wealth evaporate in a single week (Cassidy, 2002). The promise of the “new economy” was over.

An analysis of the dotcom epoch reveals several common mistakes many companies made that provide valuable lessons to higher education and the practice of online education. The rapid growth of online education has drawn more than a few comparisons to the dotcom cycle of boom and bust. As far back as November 2000, Chris Brezil identified mistakes that dotcoms were making and proposed simple steps that higher education could adopt to avoid a similar disaster. Still, several high profile online education programs and for-profit spin-offs, fueled by seemingly unrestricted funds, also resulted in a collapse that ended with a resounding “thud.” Fortunately, as a whole, online education does not appear to be headed in the same downward spiral.



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Where the dotcoms pursued a path of reckless growth that eventually led to out-of-control flameouts, higher education has taken a course much more analogous to that of a freight train. Following a constrained path, academe approached online education cautiously, gaining steady momentum over time. Thus far, this difference in approach has been successful. The dotcoms lost sight of conventional wisdom by ignoring many of the long-standing practices of conservative business. Online education, dependent upon a controlled approach, must remember four simple axioms of business that many dotcoms forgot:

- No matter how “new” it looks, business is still business. Online education programs can’t spend more than they make.
- Understand the market. Ensure the online program has a market and the institution meets the needs of that market.
- You can’t sell what you don’t have. In higher education, quality must take precedence over quantity.
- The customer is king. The customer (student) is the reason we exist.

## **BUSINESS IS STILL BUSINESS**

It all started so brightly for boo.com. Founded by Swedish entrepreneurs with a track record of running a successful Internet bookshop, the venture attracted backing from JP Morgan and Goldman Sachs...But problems came thick and fast. First of all it missed its launch date by six months meaning an ad campaign (rumored to be worth £20m) had no product to back it up. When the site did eventually launch, users found it slow and compli-

cated, and most didn't have the required bandwidth to get the most out of it. (Gardner, 2000)

After burning through \$185 million in 18 months, boo.com ended the way it started: intoxicated by a dot-com pipe dream. Its bankruptcy marked the end of the ultimate parable of the new economy run amok—a tale filled with larger-than-life ambition, loads of hype, luxury living, a penchant for partying and, yes, a seemingly unlimited expense account. (Sorokin, 2000, p. 3)

Businesses must generate revenue to remain viable. One of the greatest fallacies of the “new economy” was that profit was passé. The basic premise was this: the way to success in the new economy was to build your brand and to grow as big as possible as quickly as possible, regardless of cost. Unfortunately, boo.com forgot to focus on profit. They recklessly spent millions in pursuit of an image and lifestyle, while never approaching profitability. The mistake that boo.com and many other dotcoms made was putting more focus on branding and attracting customers than delivering a product or making a profit. When the money ran out, the only success these companies experienced was in creating popular, well-branded failures.

Even though the majority of educational institutions operate in the non-profit sector, sound business practices still apply. An online program, no matter how successful its educational outcomes, will not be able to continue unless it is producing sufficient revenue to cover costs. Understanding the costs involved is critical to the sustained operations of the online program. These costs can be grossly underestimated as many “campuses have invested token sums such as a few hundred thousand dollars only to find that

the amount is highly inadequate” (Levine & Sun, 2002, p. 8). Fortunately, several excellent tools can help institutions understand and budget for costs in providing online education. A good in-depth example of calculating cost is described in “Confronting Cost and Pricing Issues in Distance Education” by Taylor, Parker, and Tebeaux (2001). The Online Cost Calculator (Morgan, 2000) and the EDUCAUSE Institutional Readiness Inventory (READY) tool (2001) may also assist in the financial planning for online initiatives.

Fiscal planning for online programs is not optional; it is mandatory. Administrators must formulate a sound business plan for the online program and regularly evaluate that plan. This practice can easily be discounted; as Lane-Maher and Ashar noted, “much online literature focuses on instructional or technological dimensions and overlooks the fact that effective management is essential for success” (2001, p. 27). The business plan should be tied directly to the institution’s mission and reviewed regularly for current application. It should also address revenue models, which are ultimately derived from student tuition and fees.

Some institutions have the ability to modify these fees and tuition. A case is often made to discount tuition for online classes because online students do not require the use of campus buildings or utilities, and it allows the institution to be more competitive in the online marketplace. Other institutions increase online tuition because online students require additional support such as course management systems, servers, helpdesk services, and additional library resources. These types of decisions should be addressed periodically as the program develops.

## UNDERSTAND THE MARKET

Pseudo.com, the pioneering online television network, attracted a lot of media attention by providing live online coverage of the Republican National Convention in Philadelphia, but its viewing figures remained dismal. The site received less than 50,000 visitors a day due to [the] Internet bandwidth requirement necessary to use online video capabilities. Less than 5 percent of all Internet users had high-speed connections that were essential for downloading streaming video. (Cassidy, 2002)

Pseudo.com became more famous for spending its \$36 million in venture capital funding on Andy Warhol-style parties than for the material on its website. The company filed for Chapter 11 bankruptcy protection last September and its corporate carcass was later sold for \$2 million to a television production company. (Ayers, 2001)

Pseudo.com did not understand the market. Its leaders built a company whose goal was to provide services to a population that lacked the ability to receive them. Pseudo.com was not alone: "The critical error committed by most dotcom startups was to misidentify the type of market they were entering" (New Economy, 2001). Many dotcoms entered the marketplace without much research or even as much as a sound business plan. They were simply trying to stake their claim in the Internet gold rush. The flurry of companies racing for a NASDAQ IPO only encouraged more to do the same.

Higher education institutions must be careful not to become caught up in the same euphoria that swept over the dotcom world. Getting into the market just because everyone else is doing it is a dangerous practice. In 1841, MacKay

wrote about these phenomena in his book *Extraordinary Popular Delusions and the Madness of Crowds*;

We find that whole communities suddenly fix their minds upon one object, and go mad in its pursuit; that millions of people become simultaneously impressed with one delusion, and run after it, till their attention is caught by some new folly more captivating than the first (p. 1).

Online education has definitely developed a market. According to recent statistics published by the Sloan Consortium, "the number of students learning online topped 1.6 million in Fall 2002, with over 578,000 of these students taking all of their courses online" (Allen & Seaman, 2003, p. 15). Even with that established market, each institution should examine, or reexamine, what it seeks to accomplish with the online program. Starting an online program that does not have a clear goal or is not directly tied to the institution's mission will add to the difficulty in obtaining long-term viability.

Many early online programs, as with many dotcom companies, were created with an "if you build it, they will come" mentality. The *New York Times* observed that many believed whether

they were 18-year-olds seeking college degrees or 50-year-olds longing to sound smart at cocktail parties, students would flock to the Web by the tens of thousands, paying tuitions comparable to those charged in the bricks-and-mortar world—or so the thinking went (Hafner, 2002, p. G1).

Those market segments do exist, but for most institutions in online education, the largest online student population has been non-traditional students. While no national statistics exist, analysts estimate that working

professionals are online education's biggest customers (Carnevale & Olsen, 2003, p. A31).

Online education program administrators must understand the market and the needs of that market. The oversight of performing a market analysis was a fatal mistake for many dotcoms and one that online programs must avoid. In higher education, the needs assessment is a tool that has been widely used and quite effective for market analysis. Numerous books and other resources have been written about conducting needs assessments. No method can be singled out as "best" for conducting a needs assessment. Allison Rossett (1991) described a model for conducting needs assessments that has been used successfully by online education programs. An institutional needs assessment will reveal the key areas where the institution should concentrate when creating the online education program

After performing the needs assessment, administrators should have a good idea of the potential market for the online program and the possible scope it will encompass. While some online education programs have had overly ambitious plans and less than anticipated audiences, more often online education has found the market demand exceeding their estimates. Consequently, online education places itself at greatest risk of peril when it underestimates market demand.

## DON'T SELL WHAT YOU DON'T HAVE

I placed an online order from Toys R Us.com—two presents for my nephews in NJ. The order was accepted and I was told that it would ship in 3-5 days—well before Xmas. After one week and no delivery I called customer service at Toys R US. They told me

they "guarantee delivery before 12/24 --Xmas eve." The 24th and 25th came and went --they never delivered. Then after Xmas I checked my order on line and they changed it to now read, "shipped amount = 0." No order ever shipped. The consequences were that I was made to look like a fool in front of my family. Because they guaranteed me delivery before Xmas—I did not send other gifts. I made the mistake of trusting Toys R Us. (Consumer Complaints—Toysrus.com, 2000)

Toysrus.com, attempting to meet the demand of the busy Christmas retail toy season, made the unfortunate mistake of selling what they didn't have. Toysrus.com accepted online toy orders and promised the delivery of many products but was unable to keep a sufficient inventory to match the demand. Their good intentions turned to dismal failure as thousands of angry customers loudly voiced displeasure when their virtual shopping experiences delivered virtually nothing.

Even today, institutions are trying to sell what they cannot deliver with online education. In the current booming market, programs have the capacity to grow faster than their ability to adequately staff the online program. Understaffed institutions place stress on the support staff, require additional academically qualified instructors, and struggle to maintain quality in the creation of online content.

Imagine an institution attempting to meet the demands of the marketplace enrolling as many students as possible in its online program. The sharp increase in the number of students sends waves of demand throughout the institution, affecting many of the campus divisions such as library, registrar, financial aid, and advising. When an institution oversells its services, it does not deplete its stock of products; it depletes its stock of human

resources. Online administrators must be careful not to overextend the staff or faculty that support the online program. Overworked employees make mistakes, yield poor student support, and experience burnout. High employee turnover dramatically decreases productivity and creates even more stress within the online program's support infrastructure.

An institution's reputation is one of its most valuable assets, and it will be negatively affected if students are dissatisfied with their experiences online. The entire institution, not just the online program, risks developing a poor reputation just as the Toy-R-Us reputation suffered from poor customer experiences online.

New classes must be staffed with instructors, and many schools are struggling to find academically qualified faculty to teach their online classes. A quick review of *The Chronicle of Higher Education Career Network* provides evidence that many institutions are recruiting adjunct online instructors to staff their courses. Adjuncts may not be adequately trained in online teaching and will require, at the minimum, an investment in basic online instruction principles. Adjunct faculty have become a critical resource for many institutions, yet they are often the ones most removed from the institution's core culture. Inducting these adjuncts into the institution's culture of excellence is often difficult and chaotic but necessary for the academic consistency of the online program.

Institutions must strive to maintain the highest standards of academic quality. Expanding online programs also requires that additional course content be made available online. The ensuing rush to get new online courses up quickly often casts best practices aside and risks short-changing the student with courses of inferior quality. To main-

tain quality, many resources are required for course development support, such as instructional design and instructional technology support, which are stretched to the breaking point when overloaded with requests for new course development.

## THE CUSTOMER IS KING

It was the customer-service numbers that staggered. Of the one hundred thousand calls received during the past three months, hold times varied from nine to ninety-nine minutes with an average wait of about forty-five minutes. Forty-five minutes! To get someone—anyone—to answer a call from Value America, an average customer waited nearly an hour! The only fact more amazing than the hold time was that they actually waited instead of trekking down to Charlottesville to blow us all up with rocket-propelled grenades—bought from Amazon.com's warehouses.

How . . . [upset] does someone have to be to wait ninety-nine minutes on the phone to complain? Most people I know would only wait on hold for ninety-nine minutes if they were missing a body part. But Value America had *thousands* of customers waiting. Nearly every Internet outlet where people gathered to discuss Value America was filled with messages warning the world not to buy from "Valueless America." (Kuo, 2001, p. 260)

ValueAmerica.com was spending millions on customer acquisition strategies, yet ValueAmerica.com forgot to treat the customer with respect. Simultaneously, it was driving away what few customers it had managed to attract with horrendous customer support. This was not unique to Value America. Many dot-coms were more focused on the company's growth, stardom, and

valuation than serving their customers.

Online program administrators must remember what Value America ignored: the old adage that the “customer is king.” The student is the very reason we exist. The mark of a quality online education program is not necessarily in its growth rate but in its retention rate, academic outcomes, and success in online student support. Programs that fail to invest in necessary student support risk losing students, the associated revenue, and experience low student satisfaction/retention rates in the online program.

Some online education programs experience low student retention rates. Many educators suggest that this is simply to be expected in the cyberspace environment. However, numerous examples exist of schools that have online student retention numbers approaching 95% or higher, exceeding that of traditional campus retention rates. When a market is in a boom stage, as online education is now, ample supplies of new students are available to replace those who leave. As this cycle levels out, institutions will find themselves with increasing competition for attracting new students. Schools with student retention rates that are lower than their decreasing enrollment rates will be forced to survive in a scenario in which not only the student population is shrinking but revenue as well.

Institutions with high retention rates have invested in excellent student and faculty support. They provide their students with a support infrastructure that anticipates their needs while additionally understanding the importance of providing resources for their faculty. Faculty, who could be considered the internal customer, should also receive the same commitment to support. Faculty, who are trained in the development of learning communities and are encouraged to individ-

ually engage the student, positively influence student retention.

Services for online students must be considered an institutional priority in order to produce satisfied individuals. Students are drawn to online education because of its flexibility and convenience. These support services must provide that same flexibility and convenience. Institutions that fail to focus on students’ needs will only succeed in encouraging their students to click away to another online offering. Michael LeBoeuf (1989) conducted a survey that discloses why customers quit doing business with a company. The survey revealed “68% quit because they perceived an attitude of indifference by the owner, manager, or an employee” (p. 13). Students must be confident they are receiving equal respect and service to that of the traditional on-campus students. Establishment of online student associations, online library access, 24x7 helpdesk support, and accessible online student advising are key components in providing increased customer service.

## CONCLUSION

Institutions must not arrogantly defy conventional wisdom and expect success in online education solely because such new opportunities exist. An AMR Research analyst summarized the dotcom demise with the following observation:

All the dead dot-coms share a common trait: They all had value propositions that sounded like platitudes. Every one had a degree of arrogance in them about changing the world, and none of them had real products aimed at real customers” (in Robinson, 2002).

The dotcom era promoted a path of reckless growth that focused more on egos and market capitalization than serving the customer or the

shareholder. The simple concepts of sound business practices, such as producing sufficient revenue to cover costs, understanding the market, selling only what you have, and treating the customer as king were lost. Only after the dotcom collapse did these concepts reemerge as pre-eminent truths. Online education has the unique opportunity to examine the demise of the dotcoms and learn from history rather than repeating it.

Following a slow and steady path of growth, like the momentum of a freight train, is not nearly as glamorous or exciting as accelerating through the turns in the Daytona 500; but for online education, it is far more efficient, cost effective and safe. The wild spinouts of the dotcoms were exciting to watch, but for those on the inside, seeing the company hit the wall was devastating. The dotcom lessons came at great cost to those who invested their lives or fortunes in these companies. We, as online educators, have the unique opportunity to apply these valuable lessons learned from the dotcom bust—to achieve what many of the dotcom companies tried so hard to accomplish but ultimately failed to do—revolutionize their industry.

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# Can You See Me Now?

## This Next-Generation Videoconferencing Display System Makes You Appear as if You Are Really There

by **Bill Wagner and Pete Giampietro**

In these tough budget times, videoconferencing is becoming an increasingly mission-critical application. Travel budgets have been slashed, travelers are still wary of commercial flying, and the experience of the end-user in videoconferencing is not highly positive.

Dallas-based Teleportec and its product, the Teleporter, have introduced the concept of “teleportation”—or apparent 3-D videoconferencing technology—to the market to change that experience and make videoconferencing a more compelling experience. This technol-

ogy allows people in geographically dispersed locations to interact as if they occupy the same physical space. A life-sized image of a presenter is captured and transmitted and, more importantly, the leading-edge technology provides the ability for direct eye contact between presenter and audience.

Teleportation is fully compatible with existing standard videoconferencing units based on H.320 and H.323. This allows customers to continue using their existing videoconferencing networks by simply adding Teleportec’s display system equipment in lieu of a traditional flat screen TV monitor. And, the necessary bandwidth isn’t much by today’s standards. Industry standard 384Kbps ISDN or 768Kbps IP connections are all that is needed.

Digital teleportation provides a more lifelike interaction with participants, unlike the flat experience of watching a person on a TV monitor. The display system works by filtering out the presenter’s background, thereby reducing the processing load on the codec. The person to be tele-



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Teleportec videoconferencing display unit projects a speaker life-size, into the apparent 3D conference environment, with eye-to-eye contact, making the experience more compelling for the users.

ported simply sits or stands in front of a black background. This results in a feeling and perception of actual presence, and a real-time conferencing experience without jerkiness or latency. This enables quality and meaningful communication among all participants.

The system has both lectern and conference capabilities. Additionally, because we utilize your existing videoconferencing equipment, you can still use computer monitors and other input devices used in standard videoconferencing, such as document cameras for resource material. For example, one monitor might be used for information reserved for the speaker, while the second monitor displays the presentation that is shared with the audience. In a large setting, "jumbotrons" screens can be used, adding to the effect that the speaker is really at the podium on stage.

The lectern configuration makes the presenter appear to be standing behind the podium. The presenter views a large video display of the audience. The view has the same aspect ratio and line of sight that the

presenter would have if he or she were actually in the same room with the audience. This enables the presenter to communicate directly with a particular audience member and gesture in his or her direction. In the conference configuration, the system creates the illusion of an extended conference table with an individual appearing to be sitting at the table. The conference configuration can also project three to five people seemingly around the same table. New developments of this technology will be geared towards personal teleporters that can sit on your desktop or credenza, and can be used as PC monitors, TV screens, or video game displays. The ultimate goal is to introduce them to the home and home office for use over cable modems, or DSL lines. This opens up many more applications for videoconferencing that have never been realized before due to excessive cost.

The applications for teleportation are limited only by your imagination; executive communication, distance education, expert-on-demand, guest speakers, and telemedicine are only a few. Teleportation can bridge

the distance between people in new and dramatic ways, revolutionizing the videoconferencing experience. The potential value of this technology is not limited to connecting people across distance. For example, historical artifacts and relics from distant lands could easily be teleported and archived in school media centers for use as needed. Precious objects from the world's greatest museums could be teleported and recorded so that students could interact in real time or in the future with life-sized, three-dimensional representations of the objects. Architects can use the system to project CAD/CAM images more effectively than standard monitors.

Teleporters are being used in distance education worldwide. Early adopters include the Texas Education Agency, New York Institute of Technology, Ellison Miles Geotechnology Institute of Brookhaven College, and Tec de Monterrey Universidad. Recently, futurist and author Arthur C. Clarke was teleported from Sri Lanka to the Telluride (Colorado) Tech fest, where he interacted with former astronaut

Neil Armstrong and a crowd of scientists. When a causeway to South Padre Island in Texas collapsed, teachers were teleported to local venues to save students a four-hour commute to the mainland. Students in Manchester, England have been instructed by educators in Texas. The possibilities are limitless, but is the return on the investment sufficient to justify the expense?

In today's economic environment, new technology has to reduce cost, generate revenue, or prove its value

in some other way. The most dramatic way to drive this point home is by measuring the effectiveness of the experience. An independent study using an "expert-on-demand" application proved most effective in driving this point home. A live sales person at a location was measured against two-dimensional flat screen videoconferencing and a Teleportec system. The human being was successful at selling 92% of the time. The person selling over the traditional videoconferencing system was

only 50% effective. The Teleportec system was 92% effective. The dramatic study proves that a simple change of display technology can make videoconferencing more effective and that the technology becomes transparent to the transaction, thus enabling you to reduce that travel budget, increase efficiency and get the most out of your existing videoconferencing investment.





# Alternatives for Assessing Learning in Web-Based Courses

by **Wilhelmina C. Savenye**

## INTRODUCTION

The World Wide Web is increasingly becoming the technology of choice for delivering courses and programs at a distance. The Web offers us many means for delivering materials, including those developed using multimedia audio, visuals, and video, along with providing Inter-

net-based telecommunications tools. At the same time, distance delivery necessitates careful instructional design and use of evaluation to ensure quality of instruction and student success in learning (Moore & Kearsley, 1996; Simonson, Smaldino, Albright, & Zvacek, 2003).

Distance education can be defined in many ways. Rumble (1997), for instance, stresses the physical separation of learner from teacher, and adds that often distance courses use self-study or independent-learning approaches. Gunawardena and McIsaac (2003), too, emphasize the distance between learners and instructors. Moore and Kearsley's (1996) definition of distance education provides details to engage us in our discussion of systematic design and evaluation of Web-based learning:

Distance education is planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements. (p. 2)

Calvert (1989) broadens the definition of distance education to include learning that occurs not just at a distance, but asynchronously. Many students in higher education today, for instance, enroll in distance courses not because they live far from campus, but because they prefer the scheduling flexibility such courses allow.

Web-based distance courses may take many forms. McGreal (2000) describes a 13-level taxonomy of courses that vary in their degree of distance capability and mediation. Evaluation of Web-based courses and learning materials reflects these varying forms.

At one level, distance courses might be fully Web-based. These courses do not require students to travel to campus at all. Work is done independently. Such courses include not just content delivery, using print or multimedia, but also communications systems for email, chats, and/or discussions.

Hybrid courses feature extensive use of the Web for content delivery and activities; however, students are also required to attend courses on campus. Such meetings may take place several times a semester, or



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even once a week.

More traditional courses might still use the Web to supplement the material and activities included in the course. Minimally, instructors might deliver their printed materials, such as syllabi and handouts, via the Web. More powerfully, supplemental activities that use the Web for communications may be developed. Other supplements might include multimedia resources and tutorials.

Finally, the Web may be used to deliver stand-alone software for learning that may or may not be part of a course or program.

Whatever form a distance course via the Web takes, formative evaluation can improve its instructional design, activities, and materials. Rumble (1992), for instance, suggests that four main categories of factors to use in evaluating the success of distance courses include opportunities for access, completion rates, quality of the output, and cost-effectiveness. Freeman (1997) adds that baseline data such as data from other similar courses may be collected, as can market share information, enrollments, and graduation and placement rates. Thorpe (1988) recommends determining the effects of counselling, advising, and student guidance. Khan and Vega (1997) suggest additional factors to consider in evaluating Web-based courses.

## **EVALUATING WEB-BASED DISTANCE LEARNING COURSES**

While the focus of this article is on assessing student learning as part of evaluating Web-based courses, a brief review of other data useful in

evaluating courses enriches the context of course evaluation.

### **INSTRUCTIONAL DESIGN REVIEWS**

The American Council of Education's "Distance Learning Evaluation Guide" (1996) describes guidelines for evaluating distance courses, in an approach that Dick, Carey, and Carey (2001) would call "instructional design review." In this approach, evaluators review factors including the learning design, objectives, materials, technology, and the content material. In more data-based approaches to evaluation, data are gathered regarding the effectiveness of the course related to various factors, including course implementation, student and instructor attitudes, and student learning.

### **COURSE IMPLEMENTATION**

Data may be collected to determine how well the course is implemented. For instance, students might be asked their perceptions of the technical quality of multimedia materials, and how easy it was for them to access these materials, given the various types of Internet providers, with related bandwidth, they may use.

The success of marketing efforts and the students' success in using, and access to, support services may also be measured. In addition to surveys and interviews, archives of use data may be examined.

### **ATTITUDES**

Typically, student satisfaction with a Web-based course and materials is a concern in evaluating the success of the course. Satisfaction of other participants, such as instructors, technical staff, and eventual employers may also be determined. Overall satisfaction and perceptions

of value are important; however, student attitudes toward specific aspects of the course are often just as important. Student attitude data may be used to improve access to the course materials, specific materials and activities, etc.

Attitudes of students, instructors, and staff are usually measured using questionnaires and interviews; however, observations and transcribed online discussions may also be used.

## **ASSESSING STUDENT LEARNING IN WEB-BASED COURSES**

Student learning is arguably the most important determinant of the success of a Web-based course. Learning can be measured in many ways, depending upon the course goals, subject matter, institution, students, and setting. Students in courses such as these, that require considerable student motivation and self-discipline, require ongoing feedback from assessments. In addition, different measures of learning are valuable to a broad range of students (Dabbagh, 2000; Ko & Rossen, 2001). Multiple measures of performance also enhance security, as instructors can compare student achievement across several measures (Ko & Rossen, 2001). It is often useful to collect baseline data to later determine the quality of a course. Pre- and posttests can also aid instructors.

It is also recommended that assessment measures match the varieties of learning outcomes taught in a course. For instance, Bloom and his colleagues built a taxonomy of cognitive outcomes (1956). Gagne (1985) has classified varieties of learning as cognitive strategies, attitudes, motor skills, verbal information, and intellectual skills, which are further subdivided into discriminations, concepts, rules, and problem-solving.

Gagne (1985), Dick, Carey, and Carey (2001), Smith and Ragan (1999), and others have developed research-based strategies to help learners master objectives that fall into these categories of learning. For instance, they discuss strategies, based upon the social learning theory of Bandura (1969), for learners to master attitudinal objectives. Another view of learning design that uses multiple measures and fosters many categories of learning is that of DeNigris and Witchel of the University of Phoenix (2000). They suggest developing lessons that include individual study, online lectures, open-ended discussion, group projects, and weekly summaries.

Keeping in mind the many types of learning outcomes that might be measured, the following discussion will outline various types of assessments that can be employed both in measuring student progress and in evaluating the effectiveness of Web-based courses.

### **PROCTORED LIVE OR ONLINE EXAMS**

Test security, plagiarism, and cheating are issues in most educational settings. Some instructors and administrators are concerned that students might share answers to exams or that the person submitting an exam (or even an assignment) is not the student enrolled. For these reasons, though exams may be taken online, some instructors and organizations, such as open universities, have regional centers to which students travel to take proctored exams. In the United States, many university testing centers are collaborating so students enrolled in distance courses may complete proctored exams at a university center nearby. It could even be arranged that someone proctor an exam in a trainee's work setting.

Regardless of the type of administration or exam, all assessments

should be pilot-tested. We have found that directions that seem to work well in face-to-face classes are often not clear to the learner on his or her own in a Web-based course.

### **INSTRUCTOR OR TUTOR-SCORED QUIZZES AND EXAMS**

Many courses, subjects, settings, and learners lend themselves to quizzes and exams. These are especially useful for assessing background knowledge, verbal information, and concepts, but may also be employed to measure intellectual skills. Freeman suggests developing assessment systems (1997). Whether instructor or computer-scored, the format of the assessments may include closed-book or open-book exams, as well as learner-negotiated assessments. It should also be determined whether the exam is to be taken at a fixed time or on demand. In Web-based courses, instructors or the development team can determine for how long a test will be available, such as 24 or 72 hours only, with the caveat that limited times may sometimes conflict with the schedules of working students. Another choice is whether the test may be taken once only, a limited number of times or, especially with multiple forms of the exam, until the learner masters the content. It may also be determined that students need only retake parts of mastery exams.

One issue in online testing is how the exam is administered. If it is on the Web, how are students to submit it? Many systems allow for students to submit the exam to the instructor at the push of a button. Others, or when the first method doesn't work, require students to submit exams by email. (Be aware that students who routinely post course papers on their student Web sites for peer and instructor reviews may without thinking also post their exam answers to open Web pages. Needless to say, exam security may there-

fore be compromised. While under the stress of an exam, a student may not think of security issues).

The capabilities of the Web also allow instructors and designers to build exams that include graphics, sound, video, and animations, so the exams can present video scenarios, or cases, in which students solve problems and make decisions.

If there are multiple instructors, tutors, or teaching assistants, answer keys and scoring guidelines must be developed. Methods for providing feedback without jeopardizing test security should be determined.

### **COMPUTER-SCORED QUIZZES AND EXAMS**

Many instructors with large numbers of students and little help choose to rely on computer-scored exams. These need not test only verbal knowledge, of course, as sophisticated multiple-choice tests, if well-designed, can measure all levels of intellectual skills and deep knowledge. Many Web course-development software systems include a system for building and scoring exams. Usually, items need to be multiple-choice, true/false, matching, or short-answer. However, most systems allow for combining these test items with instructor-scored open-ended or essay items.

These tests may take considerable time to develop; however, they save the instructor from many hours of scoring. Most systems also provide immediate feedback to students, a feature students value. These systems also typically provide considerable aggregate data to instructors and designers about student performance and the exam itself, which can aid in improving the exam.

Many good resources exist for test question design. Dick, Carey, and Carey (2001), for instance, provide guidelines for types of test items that can be used with various types of behavior stated in objectives, such

as “identify,” “discuss,” “solve,” “develop,” and “generate.” Harrison’s book on designing self-directed learning provides suggestions for how to write multiple-choice, true/false, and free-form questions (1999).

### **SELF-ASSESSMENT QUESTIONS**

Several open learning specialists recommend developing self-assessment questions for students. Race (1994), for instance, describes open learners’ need to learn by doing as a powerful incentive. He then adds that they must regularly find out how they are doing. He suggests that self-assessment questions may also be called exercises, activities, or self-checks or self-tests. Some designers might consider all of these practice, rather than assessment, activities; however, they are useful not only to students, but to instructors and designers in evaluating student progress. Race suggests helping learners to apply what they are learning by making decisions, extending their knowledge, and diagnosing what they still need to learn. He concludes by providing guidelines for writing, using, and providing feedback on self-assessment questions.

### **OTHER TYPES OF LEARNER SELF-EVALUATION**

In our courses we often ask students to describe the lessons they have learned from small projects on an ongoing basis as well as at the end of the course. Thorpe (1988) extends this idea. She suggests that learners regularly be asked to monitor their learning, often with the aid of forms. This is likely to prove very effective, as learners’ self-study and self-regulation skills are critical to their success in Web-based courses.

With examples for young learners, Hansen advocates an ongoing process of helping learners monitor

their own learning, often using portfolios. She recommends teaching students what to collect, how to select examples of their learning, how to reflect on what they learn, and also to project ahead into their futures about how they might use what they have learned. She adds that students should be aided in dealing with their feelings about their learning, as well. Hansen’s work is also very useful for her advice on helping students determine their own goals (1998).

### **ONLINE DISCUSSIONS**

Online discussions may be used simply to enhance participation in a course, or for both practice and assessment. In our course, we use Blackboard, which has an easy-to-use discussion component. We set up Discussion Forums for each topic in the course, as well as for socializing (our online “café,” as suggested by Muffoletto, 1997) and for students to use to “meet” and choose projects and partners. Early in the course, the instructor moderates the discussion by posting study and provocative questions for each week. Later in the course, students do the moderating. We have found in all our courses that some points must be given to keep the discussions going, though many students go beyond the required discussion postings. We have developed rubrics for grading students’ discussion participation and the students use these to guide them in writing quality postings. We require students to post at least once during the first half of the week to answer the discussion questions, and then at least once during the second half of the week to reply to another student’s posting. (cf. Savenye, 2000).

At students’ suggestion over the years, we have made the discussions worth at least 20-25% of the course grade, since it makes up the “class” for students and they feel they do

considerable work preparing for and participating in discussions. We have found it difficult to assign quality values to discussion postings, due to limitations of time, but this could be done with rubrics and the aid of a teaching assistant. Students could even rate each other’s discussion postings.

Conferencing systems can also be used to hold discussions. For instance, one university with which I work requires students to participate in a telephone conference with the entire class several times a session, with the university funding the teleconference.

### **MODERATING DISCUSSIONS**

In order to foster more active student participation and, frankly, much livelier discussions, we require that students moderate at least one discussion about a topic per course. Students usually choose a topic already identified in the syllabus, but we often negotiate for students to moderate on topics they choose, and for which they select online readings or experiences for the other students.

Typically, moderators must read the topic readings and resources ahead of time and post study and discussion questions by the first night of the week the rest of the class will be discussing the topic. A few days after the conclusion of the week’s discussion, moderators post a summary of the key points discussed during the week. We have developed another brief rubric for evaluating the quality of students’ work in moderating discussions.

By moderating a discussion, students tell us they learn far more than by simply answering the instructor’s study questions. Usually they work in pairs as, again, we have found they feel more a part of the course if they do not always work in isolation.

## INDIVIDUAL WRITING/PAPERS

In many Web courses, students write research papers and essays as they do in campus-based courses. They typically submit papers either via email or a “digital drop box,” in the case of Blackboard. We have found the drop box is very expedient, in that it keeps all submissions from one course together and not mixed in with our hundreds of emails, keeps our email account from filling too quickly, and allows us to easily send feedback to students. It is important to aid students’ learning by sending them feedback in a timely manner, especially in a fully online course. We have found it critical to focus on this, as it is easy to neglect students we don’t see face-to-face, when those on campus are clamouring for attention.

An advantage of a Web course is that students’ papers can be posted for other students to enjoy, learn from, and discuss. Instructors may wish to allow students to revise papers before posting them for others to read. Longer papers may be uploaded to course content areas or group file exchange pages; we have also asked students to post shorter essays in the discussion forums, to promote deeper discussions on some topics.

Guidelines should be developed for students to use when submitting papers. If it is possible to standardize the system and software students use, scoring will be much more efficient. We have found it often takes as long to “receive” papers and projects in readable form, especially if we wish to read long papers in printed form rather than from the screen, as it is to grade them. Another technical issue that requires constant attention is having students send their files with logical names on them, and with names and titles inside the file on the papers. When downloading dozens of student projects, it is maddening to find all are titled, for instance, Project 1,

and we’ve found this to be a recurring problem in several universities and across many weeks of our courses. (We think it is a part of doing an online course—students seem to work in a very concentrated way, alone, and then quickly at the end of a long stint, they “send” their paper. They may not think as much about the task of the reader on the other end). For additional views of Web-based learning in composition courses, see Savenye, Olina, and Niemczyk, 2001.

## PEER REVIEWS

In some of our courses, especially those in which students write research papers or essays, students indicate they benefit greatly from peer reviews. Usually students send each other these early drafts via email or post them to file exchange pages. We have found it useful to make this a required component of the course and to provide students with a certain percentage of points for participating in these reviews. In some courses, such as Composition or Literature, criteria may be used to assess the quality of students’ reviews of each other’s work.

## INDIVIDUAL PROJECTS

In many courses, students are required to develop projects that are not strictly papers. For instance, in one of our courses, students develop instructional plans. They also may develop instructional software, such as multimedia software for learning, using the Web, or using development software such as Authorware or Director. Other students develop PowerPoint presentations to use in lessons. For any project, it is a good idea to develop very clear directions and assignment guidelines, as well as to make clear rubrics, checklists or rating scales available to students at the start of the project, so they know what is expected of them and how

they will be evaluated.

In fully Web-based courses, projects can be submitted via the Web system to the instructor, but it is usually beneficial to have students post their projects, if possible, for others to view. Usually, these are posted on their student Web pages, but instructors may choose to post projects to the course Web site. One note of caution regarding submissions: we have found that if students develop large multimedia projects, most email systems, including those at our university, cannot handle them. We have resorted to the mail at times so students can send CDs or videos they developed. However, students prefer to be able to post and share most projects within the course site. Some course management systems have some limitations in sharing files like these; in those cases, students may choose to post them on their own Web sites.

## GROUP/COLLABORATIVE PROJECTS

In all of our Web-based courses, we support and require that students develop some projects as members of groups. Not only does this enhance the social aspects of the course and make it more enjoyable (usually) for students, but they may learn from each other as much as from the instructor in this type of setting.

In university and training settings, we usually allow students to choose their partners, which means that early in the online course we have several small activities in which they “reach out” to get to know each other—and their skills and interests—online. With younger students and in some types of classes, it may be more productive for the instructors to form the groups, ensuring there are some more advanced students along with those who need some help.

Many schoolteachers now have

extended this idea of group collaboration to having students work with others from around the world. For instance, many teachers pair students with electronic pen pals, not only to learn about cultures and language but, for instance, about science topics, in which students collect ecological data in two environments and compare them.

All students in a group may be awarded the same grade, or the instructor may have them submit some documentation regarding what each person did. Some instructors also have students rate each other's participation on the team. DeNigris and Witchel provide an evaluation form that students can use to rate the performance of their group and of group members (2000).

## **REVIEWS, CRITIQUES, OR EVALUATIONS**

In our course for instructors who wish to learn how to integrate technology into their teaching, students are required to evaluate instructional software, videos, Web sites, and other technology products. We have developed an evaluation form for them to use in doing their reviews. This type of project could easily be adapted to other subject areas, such as students in advertising courses reviewing ads, art students reviewing art works, or students in design or architecture reviewing projects, materials and designs, all of which could be in "real" or "virtual" form on the Web. Students in many disciplines can benefit from reading the reviews of their colleagues, so these reviews, too, might be shared with other class members.

## **JOURNALS/REFLECTIVE LOGS**

Students may be required to keep weekly journals or logs, in which they reflect upon what they are learning and how they put the course ideas into practice. Some

instructors collect the journals in order to evaluate the impact of the course activities on students' thinking and practice. Other instructors might choose to allow students, instead, to summarize and submit only the results of their journal reflections. Journals are generally semi-private, though students and instructors might determine that parts of them could be shared with other students online.

## **PORTFOLIOS**

Portfolios are sometimes used to assess student learning in individual courses or as the culmination of their learning in an entire degree program. Freeman contends that portfolios are ideal assessments in open learning systems, as the student determines to a large degree how to portray his or her achievements (1997). He suggests that managing portfolio assessments can be accomplished provided learners are given clear directions and guidelines and that the assessment criteria be made clear to them. If a format is required, that, too, should be specified. He also recommends that guidance be given to learners as they develop their portfolios. Learners may want to know, for instance, the number, type and range of pieces to be included.

## **PRESENTATIONS**

In Web-supplemented or hybrid courses, learners are often expected to come to campus regularly to make presentations to their colleagues. In fully online courses, we have found a version of this can be accomplished by having students post their projects for all to view and then moderate a discussion about their project.

"Live" chat in many systems can also be used for students to make presentations. In Blackboard, for instance, students can draw on a

whiteboard or go to a Web site they developed and/or wish to show for all to view. At the same time, students can then hold a live discussion. With our system, students send the instructor slides or PowerPoints to post, but in some systems, students can also make such "live" visual presentations.

Conferencing systems can also be used to allow students to make presentations. Videoconferencing, in particular, if available to all students and the instructor, provides rich support for student presentations.

## **ON THE JOB PERFORMANCE**

In training settings, it is becoming increasingly common for evaluators to be called upon to determine the degree to which the Web course is successful in helping trainees perform well on the job, not just while they are training. With careful planning and diplomacy, it is often possible for evaluators to conduct observations of trainees' actual performance on job tasks or, sometimes, in closely-related simulations. Such observations can be conducted using some of the methods of qualitative researchers (cf. Savenye & Robinson, 2004).

## **SIMULATIONS, ROLE-PLAYING, AND DEBATES**

To our discussion Ko and Rossen add suggestions for using computer- and Web-based simulations to both provide practice and assess learning. They add that role-playing and live or written simulations can be used, as well as online debates (2001).

## **STUDENT-GENERATED OR NEGOTIATED PROJECTS AND ASSESSMENTS**

In some open systems, learners negotiate their assessments. Freeman recommends management decisions

are made as to the parameters for these assessments, what can be negotiated, and the recording systems for course progress as well as for units of credit (1997). He adds that instructors and tutors then are responsible for explaining the parameters to learners, agreeing together on learner plans, monitoring and recording progress and “signing-off” at completion.

## CONCLUSION

It is hoped that this discussion of the wide variety of means to measure student learning in distance courses may aid instructors and designers in developing Web-based courses, as well as evaluating their success. The range of tools and techniques available for distance learning will continue to expand in the years to come. At the same time, the convergence of technologies may enable our courses to become more powerful and more easily delivered. We expect our choices for assessing student learning to expand and become more powerful as well.

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# Distance Learning

## An Ever-Changing Industry

by John G. Flores

Welcome to the launch of *Distance Learning*. Filled with up-to-date articles focusing on best practices and cutting-edge solutions, it should become your DL journal of choice. We all know that changing needs keep the DL market and industry moving in a steady direction. This new publication will keep you informed about current events, trends, and industry happenings.

Regarding the current DL industry status, from my perspective, the message is clear: the industry will continue to have consistent growth with increased merger and acquisi-

tion activity, new sector alliances and cultural acceptance. Moreover, the \$750 billion U.S. education industry, a subset of the \$2 trillion global education market, will experience opportunities and growth in distance learning commerce. Pre-K-12, higher education, corporate training, government, military, telehealth, and home schooling constituencies represented by the USDLA report steady activity and a maturing understanding of what distance learning can deliver. Whether it is satellite, videoconferencing, Web-based, or other traditional distance learning distribution methods, reports from the field are the same: steady growth with M&A coupled with increased distance learning opportunities.

Within the DL sector, it's no longer about education and training. It's about the knowledge economy and lifelong learning. It's about developing skilled workforces. It's about shifting paradigms. It's about thinking outside of the box. Why? Because with distance learning, the future is now, uncluttered by time, space, or access. The only variable challenge of any student is commitment and institutional acceptance.

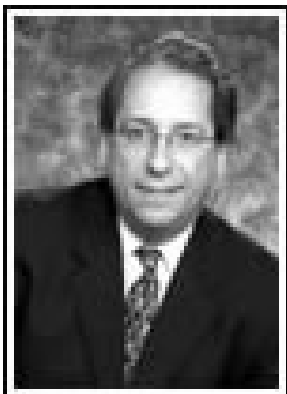
At the USDLA, we know that is changing too. In the Pre-K-12 market, state departments of education continue to certify and approve virtual schools and courses. Across the country, State Departments of Education have task forces looking at all

the possible applications and programs available for local schools. From online math and science to art and physical education, approved courses continue to increase in availability. Students are taking classes anywhere, any time, in all subjects.

In higher education, colleges and universities, both public and private, for-profit and nonprofit, have myriad available programs. UMass Online continues to grow and flourish. According to Jack Wilson, CEO and now acting UMass President, "The University continues to see positive growth and positive return on investment. In fact, in its second year of operation UMass Online has served more than 10,000 students and averaged a yearly growth rate of 56 percent. And students are clamoring for more courses and degree programs."

Likewise, one of the oldest and most experienced universities in distance learning in the country concurs. Nova Southeastern University's Wells Singleton, Provost of the Fischler Graduate School of Education and Human Services, stated, "Our distance learning degree programs continue to be a critical aspect of our mission and philosophy. We understand that today's students must have flexibility, choice, and quality teaching. Our programs, especially in the Northeast, have experienced tremendous success."

The trends are not limited to the United States but, rather, are global



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in nature. Most higher education institutions affiliated with USLDA have numerous global partnerships and programs. Eduventures ([www.eduventures.com](http://www.eduventures.com)), a 21<sup>st</sup> Century sponsor, reports that more than 40 percent of Fortune 500 companies have implemented corporate distance learning university programs.

And both are pursuing domestic and global student audiences. With

15 million students in the U.S. spending billions of dollars coupled with a global desire for U.S.-related degrees, strong business opportunities exist; hence, the large capital invested in companies such as WebCT, Blackboard, Connected Learning, and others.

Similar to the higher education distance learning initiatives and the Higher Education Reauthorization Act, distance learning in telehealth,

government, and the military grows steadily. From the eArmyU Online Program to new distance learning programs associated with the No Child Left Behind Act of 2001 and the President's recent stimulus package, there are tremendous opportunities and implications for the distance learning industry.

Distance learning will continue its path in 2004 with steady growth, so stay tuned for the next chapter.

# Where Are We Now? Where Are We Going?

## A USDLA President's Look at the Field

by Darcy W. Hardy

In the overall scope of its existence, the field and practice of distance learning/distance education has evolved somewhat rapidly over the past two decades. We've seen change from traditional self-paced, independent learning to sophisticated, highly interactive forms of electronic instruction and delivery. At the same time, it appears that face-to-face teaching and learning has begun to evolve as well. Take

a look at this definition of distance education from Michael Moore and Greg Kearsley, in 1996:

Distance education is planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements. (p. 2)

It seems to accurately describe the planning and effort that is necessary for quality distance learning. But, if we look at that same definition and simply eliminate a few words...

~~Distance education is planned learning that normally occurs in a different place from teaching and as a result~~ requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements.

... we have, what I would argue, is a definition of education in general. It's possible that the values and techniques instilled in the evolution

of distance learning have now become crucial in the development of all educational experiences. And, if that is indeed the case, what does that mean for the field? Will the word "distance" finally gain the respect it deserves for all it has contributed? Will the word simply disappear? And if it does (which I have wished since the early 1990s), where does that leave the practitioners? Will distance learning and face-to-face learning simply merge in the future?

Where are we now? It appears that we are evolving yet again, only this time it's not an evolution based on a new technology. It's an evolution based on acceptance. I believe that this magazine, *Distance Learning*, will be a place to observe how we as practitioners, researchers, and theorists work through this acceptance and find or re-confirm our niche in this new environment of change. I encourage you to contribute your thoughts and your stories about how the change impacts you.

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# Chapters Thrive Across the Nation

by Marci Powell

One of the greatest benefits of being part of the USDLA is having access to other chapter members located across the nation. As someone who has been involved in a state chapter as a member and officer, the ability to network with other professionals facing many of the same issues has been blessing. Networking among colleagues and gleaning best practices and lessons learned from fellow USDLA members have proven highly beneficial.

The USDLA is proud to be the parent organization to the various regional chapters across the United States. New state and regional chapters are being birthed each year, while others vary from toddler stages to full grown. USDLA board members have agreed to serve as mentors for the up-and-coming chapters.

How can valuable information be gleaned from the chapters? Many are hosting conferences focusing on

technical issues, successful programs, best practices, latest technologies, and many other topics. Even with travel budget cuts, many of our chapters have found ways to successfully host conferences. Some, like Arkansas DLA and Oklahoma DLA have chosen to offer one-day high-impact conferences. Others, like Texas DLA, Iowa DLA, and Maryland DLA, are hosting larger multi-day conferences. TxDLA hosted over 500 attendees last Spring. Some, such as KYDLA, are

using the technologies we embrace. California DLA (ADEC) is hosting a series of Webcasts covering topics such as legislation and educational program delivery. The Pan-Pacific DLA is a key player in the success of the Global Learn Day, a one-day virtually-attended conference using the Internet to connect distance-learning professionals from across the globe.

Listserve, distribution lists, chat rooms, Websites, and newsletters are some of the ways chapters are effectively disseminating information and support. Nationally, monthly Chapter President's calls are being held to keep us all abreast of current events.

One message is clear. Though geographically diverse, many of us share similar issues and concerns. When dealing with distance learning, the world is not so large after all. Sharing best practices is just one of the many benefits derived by USDLA members.



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## **Performance and Performing**

by Ryan Watkins

In most of our discussions about distance learning the distinction between what we *do* and what we *accomplish* is often overshadowed by talk of the latest technology innovations or tactics for increasing our market share. If you are like me and many others, you find that it is typically more stirring to talk about a new software application or techniques used to

increase learner participation, than it is define the results distance learning is going to deliver for the organization and its external clients, as well as how you should go about evaluating your success. In general, most of us prefer to talk about *performing* rather than *performance*.

Nevertheless, our success is most often judged by our *performance* and not our *performing*. After all, we don't reward cows for standing over the bucket, nor do we reward sales people for keeping a client on the phone all afternoon if it doesn't result in a sale. The same is true in distance education and e-learning; although the processes we use are important, we do not want to be distracted by the number of courses we have online, the latest options in streaming media, or the number of learners we have enrolled. Even if most of us can't be successful without high levels of *performing*, the true value and benefit of distance learning solutions are the *results*, or *ends*, accomplished both in the online classroom and on-the-job.

By clarifying the distinction between *performance* and *performing*, we can influence how we

define success and the likelihood that we will achieve it. For many of us involved in training, education, and performance improvement, the focus has traditionally been on the behaviors of ourselves and others. This has been done based on the assumption that increasing the efficiency of *performing* (i.e., productivity) will automatically lead to improved effectiveness and valued *performance* (i.e., results). Unfortunately, the relationship between *performing* and *performance* is often thwarted by misguided expectations, inadequate resources, moving performance targets, and other organizational managerial nightmares.

In response, we have experimented with measuring discrete variables of behavior, developing distance learning programs, evaluating employee morale, reengineering processes, moving training to be just-in-time, and a barrage of other well-meaning efforts; always remaining focused on improving how we *perform*, while rarely defining and measuring the required *performance*. For example, we commonly count the number of hits our distance learning



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Websites have each month or the number of hours in which we have content streaming through satellites, all the while very few of us evaluate our success beyond end-of-course exams or surveys of learner satisfaction.

Complementing our current evaluations of *performing* with the assessment of *performance* is essential for enduring success of distance learning initiatives. Organizational resources will not be expended in the long-term on initiatives that do not demonstrate measurable results for the organization, its clients, and its clients' clients.

Isolating and measuring the results contributed by training and education programs within an organization is essential. This requires, in addition to assessing how we are *performing*, that we measure our *performance* in terms of the results

accomplished through distance learning outside of the online classroom. For example, learner performance on the job, learner contributions to departmental achievements, organizational accomplishments, as well as the success, safety, and satisfaction of the clients and the clients' clients.

*Performance*, when defined as the results of an individual or organization, can be the true measure of success for any distance learning programs. Distinguishing what we *do* from what we *accomplish*, offers training professionals and educators a valuable and unique perspective that is useful when defining criteria for program success, requesting additional funding, making difficult decisions, evaluating accomplishments, designing distance learning courses, and when trying to keep one step ahead of the competition.

Without forgetting the necessity for high levels of *performing*, distance-learning initiatives can benefit from clearly denoting the distinctions between *performance* and *performing*. In other words, the distinction between Ends and Means.

## NOTE

The *Ends and Means* column is based on a feature written by Roger Kaufman throughout the 1980s for the Performance Improvement Journal of the International Society for Performance Improvement. His articles each month informed and inspired many professionals, and it is my goal to continue his tradition of performance-focused articles through my contributions to *Distance Learning*.

## No Excuses: The Power of Knowledge

by Jonathon Levy

Every once in awhile, one of my colleagues would complain that it is hard to use technology for certain purposes due to lack of bandwidth. In response, I would tell the story of the time that Cornell University needed to provide knowledge for the tiny village of El Limon in the mountains of the Dominican Republic. A project that was designed to help the people of



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that village become self-sufficient ran out of funding and the faculty had to leave, but they wanted to continue the project via distance learning. The problem in that case wasn't lack of bandwidth; the problem was that El Limon had no electricity at all. But they did have a mountain stream. Using a small hydroelectric generator, a computer, and a low-power satellite uplink, the people of El Limon were connected to faculty at Cornell's upstate New York campus and the project continued.

But I don't tell that story any more; I have a better one since I've been to South Africa, where the students of Myeka High School outside Durban quietly made history one day not long ago. The students, highly motivated to end generations of poverty under apartheid, desperately needed computers. Local business donated machines, but there was no electricity in the town, nor was there a river nearby. Solar power was too expensive. All they had was themselves and their creativity. A group of students and teachers conceived of a unique solution: they rerouted the school's 16 toilets to a large

tank that generates methane gas. The gas supplies fuel to a generator that powers the school's 20 computers. Their computer lab operates for five hours every day. They also use the resultant clean compost in the school's vegetable patch, where spinach and carrots are cultivated to help feed scores of AIDS orphans at the school.

No excuses, no whining. Just solutions. For those who comprehend the liberating power of knowledge, lack of infrastructure is no match for a powerful driving desire and a little creativity.

Closer to home, a new corporate learning idea is beginning to challenge the pedagogical underpinnings of the traditional academic model. A growing chorus of visionaries in our field touts the merits of just-in-time personalized performance-support knowledge systems that allow the learner to drive the process. While the vision of integrated enterprise knowledge systems seems to be gaining new adherents daily, there is no obvious driving force in the U.S. or Europe to feed the fires of this promising next step. Just as a more sustainable and predictable model comes

into view, it may turn out that less-developed nations take the lead in finding the high ground.

Why? Interestingly, while much of the thinking around just-in-time learning is aimed at knowledge workers in industrialized nations, such integrated knowledge systems have profound application in less-developed nations as well. There, the need is great and the traditional academic infrastructure cannot move quickly enough to keep up with the demand. An entirely new “disruptive model” of learning—just-in-time learning—can help those nations leapfrog past the industrialized nations, where corporations have huge sunk costs in older technologies that mitigate against imagi-

native futuristic solutions. China did just that with cell phones, leaping past the wired infrastructure of the west, directly to mobile telecommunications.

Government, education, and business can work together in this new model to create national taxonomies—South Africa has already begun this process—and thereby national standards for learning objects and transferable competency maps. National knowledge infrastructures can provide each country with a measure of competitive advantage. Such can be the case in China, in South Africa, and perhaps in Latin America as well. But probably not in the U.S.

When Gutenberg invented the

printing press, the illustrations were still done by hand, creating an artificial bottleneck that gated the *innovation* within the invention. It took only a change in thinking for the illustrations to also be printed and the innovation allowed to soar, resulting in massive social transformation.

That may be where we are right now. Who will lead us past our own mental barriers, our fixation on courses and the academic model? The big technology companies? Content vendors? Corporate universities? Or third world nations? As was the case in El Limon and Myeka High, it may simply come down to whoever has the more powerful driving desire.

## This Changes Everything—Again

by Craig Ullman

Despite the high-tech bubble burst a few years ago, one area has continued to grow beyond all but a few observers' wildest dreams: broadband. According to Nielsen/NetRatings, home users of broadband have quadrupled since January 2000, and now represent about 40 percent of the home online market. If current trends continue, broadband

will reach 7 percent of the home market by mid-2005.

The remarkable growth of broadband has profound effects on distance learning. Innumerable organizations, private and public alike, have spent a small fortune creating online content designed for the lowest common denominator, narrowband user: mostly text, graphics, and some very light weight interactives—content that can bleed its way through a narrow pipe.

Big problem, because broadband is a unique medium with its own affordances.

A good analogy would be the relationship between radio and television. Television is, literally, a higher bandwidth application than radio and, in fact, was initially thought by many to be simply "radio with pictures." However, the increased bandwidth television provided afforded users the ability to see full motion, which changed everything. Television quickly developed its own unique forms of storytelling, news, and so on, to take advantage of the unique medium's affordances.

The same is true for the relationship between narrowband and

broadband Internet content. The ability to send more data through the pipe completely changes the nature of the user experience. In addition to smaller data applications like text and graphics, now Web content can contain full motion video streams, high-quality stereo audio streams, even complex animations and simulations. The result is a more involving, more emotive, user experience. So once again, increased bandwidth changes everything.

Narrowband content can certainly be accessed by broadband users, just as it's equally true that radio programs could be broadcast on television—and they practically were, early on. The problem, however, comes when users' expectations change. Once people become used to richer multimedia experiences in news and entertainment, they will expect the same kinds of experiences in education, and content that doesn't contain media streaming and elaborate animations will seem "very 1996."

The change in users' expectations won't happen overnight. Broadband needs a couple more years before it reaches the majority



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of the online population; then, news, advertising and entertainment companies need to gain more experience and produce more broadband content before the bar will be raised for

education.

But the bar will be raised, and a couple more years is *only* a couple more years. Can existing online content be upgraded to broadband with

the simple addition of some video files and a couple of Flash animations? Isn't that all you need?

Well, no. But that, my friends, is another story. . . .

## It's 1:30 a.m.

### Do You Know What Your Students are Looking At?

by David Graf

How often have you posted an assignment in your Web-based course that directs students to “use the World Wide Web to find information in support of your paper”? Such assignments, while well-intentioned, often are unfair to students, who are ill-informed about the legitimacy, accuracy, and validity of

the Web sites they find. Anyone who creates assignments that cause students to locate and use Web-based resources has an obligation to help students understand the possible shortcomings of those resources.

The best place to start is by ensuring that students know how to use Internet search engines effectively. A plethora of search engines exist. Some, like the *Argus Clearinghouse*, *Ask Jeeves*, and *Yahoo* yield results that have been sifted through various levels of reviewers. However, the vast majority of Web sites are not reviewed and are therefore open to question as to their purpose, accuracy, and credibility.

The onus for helping students evaluate Web-based resources begins with faculty, who themselves should evaluate any web site they direct students to use in completing assignments. Further, faculty should routinely evaluate Web-based resources that their students cite when completing assignments. While this sounds like a tall order, most faculty will soon realize that their students use the same

Web sites from term to term. The critical issue here is to ensure that the resources being used by students are worthy of supporting their research.

So, how can you help students evaluate the information they find on the Internet? Begin by impressing upon them the fact anyone can put anything on the Web. Students need to realize—as should faculty—that because there is no oversight for Web sites, nearly all Internet-based resources should be looked at with a keen, critical eye.

Minimally, students should be taught to question the credibility of the site's author. Is the site trying to sell something or win readers over to a particular point of view? How accurate is the information contained in the site? How current is the site—and any references included in the site? These are only a few of the questions that students need to keep in mind as they review potential resources to support homework assignments and projects. Bear in mind, however, that there are numerous other questions that should be asked when evaluating Web sites.



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Fortunately, neither you nor your students have to start from scratch. There are dozens of Web sites that provide very useful evaluation and validation tools. A few of these, including a Webliography maintained by the author, appear at the end of this column. Consider incorporating one or more of the tools you find in these links into your course—or create your own. You owe it to your students.

Oh, and one more thing: *Caveat emptor!*

## BRIEF WEBLIOGRAPHY FOR EVALUATING WEB SITES

Auer, N., "Bibliography on Evaluating Web Information" (<http://www.lib.vt.edu/research/evaluate/evalbiblio.html>).

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## **. . . The Editor's Final Comments on *Distance Learning***

**by Michael Simonson**

**P**lato said that "*the beginning is the most important part of any work.*" With this first issue of *Distance Learning* we begin the collaboration of three partners – the United States Dis-

tance Learning Association, the leading professional organization in distance education; The Fischler Graduate School of Education and Human Services at Nova Southeastern University, one of the largest private, accredited universities in the United States that stresses the importance of distance education; and Information Age Publishing, the leading publisher in the field of distance education.

The editorial staff for *Distance Learning* feel fortunate to be able to draw upon the resources of these three internationally known institutions to offer this bi-monthly publication for leaders in the field of distance education. *Distance Learning* is for practitioners and decision makers in the fields of distance learning, e-learning, telecommunications, and related areas. It is a professional magazine with applicable information for those who provide instruction of all kinds, to learners of all ages, using all types of telecommunications technologies.

The editorial team of *Distance Learning* brings together individuals with decades of experience in distance education, education, training, and publishing. Charles Schlosser, the Managing Editor, is an experienced journalist who has widely published in distance education. He will coordinate and manage the editorial content of the magazine. Margaret Crawford, an information specialist from Mason City, Iowa will work closely with Charlie to ensure the accurate and effective communication of ideas in the magazine. Anymir Orellana, from Nova Southeastern University will handle the administrative needs of the editorial team.

John Flores and Denzil Edge will serve the *Distance Learning* as Association Editors who ensure that close ties to the field and to USDLE are maintained. They each bring decades of experience in distance education to our team.

Last, my role as editor will be to support the editorial team, solicit



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insightful and interesting articles for publication, and to regularly present editorial comments about the process and practice of distance teaching and learning. Letters to the editor are always welcome and should be sent to me. If you read something you don't like, let me know, and if you read something

you do like, let us know that, too.

*Distance Learning*, the magazine, is new; distance learning, the field, is not. This publication will inspect, examine, and report on the practice of distance teaching and learning. It will be a resonating sounding board for those wishing to express ideas about issues of impor-

tance to the field.

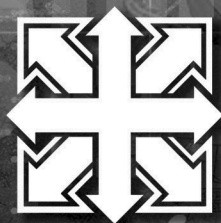
*And finally.* . . as Plato wrote, *the beginning is the most important part of any work*. We have begun a new publication. With your help this beginning will be important to the successful growth of the field of distance education.

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