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DISTANCE LEARNING

... For Educators, Trainers, and Leaders

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Support for Distance Education and Training

Bruce W. Dobbins and Zane L. Berge

The case is now more convincing than ever that distance education and training (DE), and specifically e-learning, is the essential component in the survival of traditional education. E-learning allows the scope of the education offered by an institution of higher education to expand exponentially—while keeping expenses per student far lower than what is possible in a traditional classroom environment. There will be a direct ratio between long-term success of colleges/universities and their ability to provide comprehensive DE opportunities throughout the world.

E-learning is a tremendous educational resource that allows an organization, whether a commercial firm or university, to serve a larger and more diverse student body than would be possible with a traditional classroom format. Instruction should be delivered worldwide with a standard and consistent level of quality and content. This also means that course subject matter can be updated once—and that update reflected immediately worldwide. The same monetary and staff resources required to reach a large community of students—on one subject via traditional classroom instruction—may be used to develop and deliver instruction in a multitude of subjects via e-learning. Students should be allowed to work at their own pace without

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sacrificing course content. This allows much more flexibility and, therefore, allows for many more candidates for the student body than otherwise would be able to take instruction in a traditional, fixed-schedule classroom environment.

The principal drawback of e-learning is that it requires both a computer and Internet access. This also implies reliable electrical service and adequate shelter (at least for the computer equipment). This is not a great concern in the developed world, but is of great concern in the developing world where, if one is fortunate, there might be an Internet café less than a day's walk away, and with it perhaps the ability to actually save or print one's work.

Having said that, one change we have already witnessed is the increase in stand-alone computer equipment, coupled with the geometric increase in both the processing and memory capability of these machines, as an overall ratio per household within the United States. Concurrent with this is the increase of both variety and capability of the software available to the average student. Couple these two factors with the substantial increase in Internet bandwidth capacity just within the last several years, and one gets a potential student community ready and able to receive just about any traditional e-learning curriculum and courseware that an institution of higher learning might produce—provided sufficient student support is provided to ensure that the students are free to focus on their "learning experience" and not on the method of delivery.

The ultimate success of e-learning, DE, or Web-based training (WBT) (or whatever it happens to be called at present) depends on three key factors. The first of these factors is the ability of course developers to apply training against the real problem being addressed. Assuming that a problem lends itself to a training solution is the first great opportunity for failure when assessing an issue that has been identified for a training solution. This assumption will first be made by someone within the organization who knows absolutely nothing about training, and it is the responsibility of the training professional to ensure that this issue is properly addressed. The next factor is to ensure that the quality of the instructional systems design (ISD) process employed includes the objective application of all ISD principles and steps. The follow-through utilized to support updating the curriculum, updating/maintaining the courseware, and supporting the learning experience of the student body is the third and last factor. This follow-through, what we will call holistic support, is the focus of this article.

BACKGROUND

Almost without exception, every successful effort begins with a plan. The plan is based on a vision, and the plan exists to define the road required to make that vision a reality. The plan must take into account ISD variables that, when considering e-learning solutions, consider (at a minimum) the following elements. The plan must (Dodds & Youngman, 1994):

- Clearly identify the rationale for e-learning and prioritize that requirement.
- Demonstrate and document e-learning as the principal ISD response.
- Controlling/updating curriculum content.
- Conduct a cost/benefit analysis.
- Ensure that adequate resources will be made available and that there is leadership buy-in for both the development and sustainment of e-learning.
- Ensure that the planned training meets all state/federal/accrediting agency standards/requirements.
- Ensure, as much as possible, that the e-learning curriculum/courseware is sustainable internationally. A good example of this would be the Instructional Management System standard (Reese, 2001).

There are requirements that are essential capabilities and must be addressed when identifying the critical requirements for providing holistic support to automated training. Unless a complete training overhaul is planned, the new plan must ensure that the functionality of existing DE is maintained. Planning must also accommodate existing courseware and implement any updated software capacity and service improvements that have been planned. Strict control of current curriculum integrity must be maintained while updating curriculum content. Consideration of any additional tool/feature support for an existing education/training package must include both the interoperability of that tool with the existing courseware suite and the ability for the average student to run the revised courseware on his or her machine. Scalability concerns (increased enrollment) must be addressed at the beginning of this process (Laws, Howell, & Lindsay, 2003), and provision for monitoring student performance, feedback on coursework, and tracking improvements resulting from that information must be planned for prior to implementing any modification.

Once the essential capabilities have been completely identified and planned, the next step is to identify the level of effort and material costs associated with implementing the plan. Note that this question occurs after an objective assessment of the requirements is made. This is necessary to ensure that an objective analysis is conducted independent of external factors not specifically related to the holistic support of DE.

WHERE HOLISTIC SUPPORT FITS INTO THE DE PROGRAM

Part of this process must be a realistic estimate of actual capability and the level of effort required by the specific training package under consideration (Thorpe, 2002). A company of 100 employees, for instance, will not necessarily need the same holistic support level of effort that would be required by a firm of 5,000 employees. Consideration must also be given to the differing support requirements for various types of DE, individual curriculum considerations, specific requirements of whatever software is selected to provide the instructional framework (Ryan, 2001), student demographics—and the impact of those demographics, if any, on the amount and type of holistic support requirements (Berge, 2000), and anticipated student service requirements—hopefully based on some objective survey/study of student requirements (Smith, 2001). Figure 1 is a sample result of the data that such a survey might produce.

The connectivity requirements to access the training must be specifically considered with an eye toward 95% or better availability. Specialty and availability requirements for teaching staff must be planned out and addressed as well (Berge, 2000). Considerations regarding the amount of self-directed versus instructor-directed support required should be made concurrently with the development of the instructor support package. This then becomes a key part of the holistic support plan and is included as the third critical element of the three required components for successful DE.

Barriers to e-learning must also be considered and planned for. These include technical expertise (or lack thereof) of both the teacher and the student. This element was considered extremely important to the overall success of e-learning (Dirr, 1999). Other considerations include administrative structure (Lenn, 2000), capacity to evaluate the effectiveness of e-learning and the performance of the students, organizational change, social interaction, quality, student interplay, student support services (Cho & Berge, 2002), technology challenges for both teacher and student(s) (Stubbs, 1999), access to (and speed of) con-
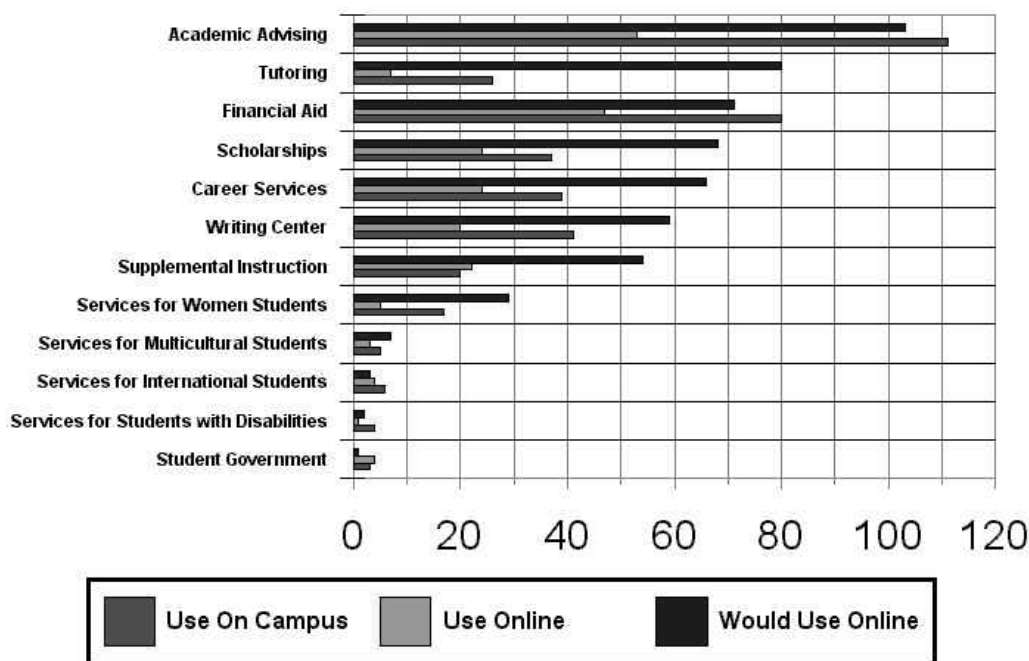
Figure 1. Sample student services survey statistics.

nectivity, faculty compensation, and legal issues (that are beyond the scope of this article) (Cho & Berge, 2002).

IMPLEMENTATION OF THE HOLISTIC SUPPORT PLAN

Implementation of the support plan begins with the first step: applying training against the real problem. Some basic idea of what support will be required should accompany the first step of the ISD process and ride on the shoulder of the effort throughout the developmental process. Support is even more important where both asynchronous and synchronous instruction exist within the same curriculum (Fazio, Gilding, & Zorzenon, 2000).

Holistic support must then create and nurture the environment where the instruction becomes student-centered versus the traditional instructor-centered training structure. These shifting roles must be accommodated by active instruc-

tor support and mentoring for both students and faculty.

Berge (2000) recommends that students construct their own knowledge, versus relying solely on what they receive from a teacher. Students should practice problem solving versus memorization, develop their own questions and answers through group and individual study, increase requirement for multicultural interplay between students, master teaching/training tools as well as curriculum, and manage their own learning and class work schedules. Students should increase focus on their own work versus that of the teacher, increase emphasis on the creation of knowledge versus passive observation, and focus on the goal of actually learning versus passing tests. Students also have certainly experienced a quantum increase in access to instructional materials due to the advances in automation over the last decade.

For teachers, Berge (2000) recommends that the traditional role of teacher/instruc-

Table 1
Instructor Skills Required to Support/Sustain E-Learning

Role	Action/Result
Starter	Identifies possible courses of action and, thus, broadens the class discussion.
Conceptual facilitator	Draws new ideas from the discussion and uses those ideas to stimulate discussion.
Reflective guide	The implications behind class discussion are identified and students are encouraged to apply what they are learning to their working environment.
Personal muse	Established views are challenged and critiqued as a means of encouraging discussion.
Mediator	Instructor brokers disagreements and encourages progress toward consensus.
Role play	Instructor assumes another person's role in order to confront ideas outside of the instructor role.

tor be transformed to a guide/coach. The teacher should also become a questioner instead of being the font of all knowledge. These changes provide a training structure that focuses on the cognitive process, as it pertains to the student's learning experience, and monitors student progress. Teachers need the ability to relate to the students regardless of their learning style (pictures/words/etc.) (Fazio et al., 2000), with e-learning needing to be developed, as much as is practical, with multilearning style considerations in mind. Another big change will be that teachers need to possess the ability to simultaneously teach hundreds of students. Table 1 lists selected teacher skills (Broadbent & Legassie, 2004).

While it is certainly true that these skills would also be important within a classroom environment, they become vital to the successful support of an e-learning curriculum when the constraints of a remote learning environment are taken into account. E-learning is a much more constrained environment than that of a classroom and the teacher must be more focused on mastering skills that support and sustain the e-learning experience. Some of these skills include the ability to step back and allow the students to take the lead in discussions; investigate and actively encourage new approaches to learning; remotely monitor student progress and offer encouragement; master

and support e-learning skills; tailor e-learning to the specific needs of the students; the ability to write both succinctly and clearly; anticipate student needs; use and teach effective time management skills; and support and counsel students through remote contact. Table 2 indicates some of the instructor actions and students' potentially negative reactions to those actions (Broadbent & Legassie, 2004).

Studies indicate that e-learning students view the teacher as a very important source of support during the e-learning process. Teacher encouragement of peer tutoring also will have a significant impact on both student performance and their prospects for successful course completion (Cain, Marrara, Pitre, & Armour, 2003).

MAINTENANCE OF THE HOLISTIC SUPPORT PLAN

There must be a constant evaluation process in place to ensure that holistic support is effective. This requires a specific person or team being specifically assigned to the care and feeding of both the curriculum and courseware, with the authority to implement and/or modify the e-learning support plan. Both a comprehensive student feedback system, to include e-mail, evaluations, and testing, coupled with the frequent testing of courseware by the instructors, is required to ensure effective

Table 2
Instructor Actions and Potential Student Reactions

Action	Reaction
Role play	Possible to undermine the student's ownership of the discussion(s).
Instructor actively participating in online discussion	Possible to dominate the discussion to the detriment of the students.
Instructor asks excessive questions	Students become saturated, treat all questions with equal weight, and focus more on quantity of their responses to the detriment of quality.
Instructor parades their experience/expertise	Students tend to either tune out or adapt the instructor's position—to the detriment of their own thought process and learning experience.

holistic support. There must be a process in place to modify the support plan as required by practical experience to keep the training support relevant to both the student and to ensure that the courseware is being supported properly.

HOW TO ENSURE HOLISTIC SUPPORT SUCCESS

Having sold the concept of holistic support, how does one ensure success? One way is to start with the Dobbins Three Golden Rules of e-learning:

1. Success is ensured by meticulously following the steps in instructional systems development. Constructing e-learning requires the same questions and considerations made when building a standard podium curriculum—plus the hardware/software/system questions common to constructing an e-learning platform.
2. Results are what ultimately matter. Course developers and trainers need to keep their eyes on that ball and off of the neat mechanics available to get there.
3. Never build your hardware/software/courseware requirements higher than the average equipment/software available to the average student.

Next, avoid DE structural failure. Often, failure occurs due to multiple factors that include attempting to apply e-learning to a problem that does not lend itself to a training or e-training solution. Leadership may also be under the impression that they have insufficient time to do the heavy mental lifting required for proper problem assessment and ISD planning—believing, falsely, that if they simply throw money at a problem, that act alone will eventually bring success. Prior planning prevents pathetically poor performance—which is especially true when designing e-learning courseware and selecting the requisite platform on which to run it. Many organizations make the mistake of focusing on process instead of results. That is, they become enamored with the technology available without having the least idea how that technology actually aids in achieving the training results they seek. Without any credible method/methodology for measuring student/courseware success the training may fail. That is the mechanics, yet staff support and participation is essential to success during the ISD process, the actual delivery of DE, and the holistic support that makes DE delivery effective.

FUTURE TRENDS

Several suggestions point toward success when discussing staffing requirements

necessary for effective holistic support. The staff needs to be a group of mixed skill levels and experience. This means that the staff mix should include some with platform instruction, some with technical prowess, some with distance instruction, and some with heavy curriculum development and testing backgrounds. Adult learning theories need to be concurrently serviced within the e-learning curriculum and platform. In that vein, any instructor/teacher transitioning from podium to e-learning instruction should take an e-learning class as a student prior to becoming an instructor, regardless of how much technical knowledge of the e-learning platform he or she has mastered. Such an experience will give the instructor/teacher a "student's perspective" that cannot be acquired anywhere else.

There are some things available to a platform instructor that are simply not practical within an e-learning environment and it takes most teachers time to make the transition. For instance, teaching by the Socratic method is virtually impossible in e-learning because one does not have the required real-time student interplay so necessary in that form of instruction. Humor that works well when coupled with body language falls flat when in written form. For instance, if one makes extensive use of facetiousness in one's classroom instructional methodology, that just does not transfer to an e-learning environment. So, the curriculum, methodology of instruction, and holistic support provided to the students must be tailored to fit within the e-learning environment.

CONCLUSION

The future may see a seamless integration of classroom and e-learning support for service requirements (Irani & Teig, 2002; White, 2002). This combined support may include student-centered customer service, integration of services (a "cross-functional" approach), data system integration, cen-

tralized student service buildings, cross-functional staff training, staff as knowledge navigators and problem solvers, direct access to information for student and faculty (Dirr, 1999), and use of technology as an enabler of routine transactions (Fazio et al, 2000; Frieden, 1999). Only a preplanned, fully supported and funded, comprehensive, holistic support plan allows for e-learning students to maximize their educational experience with distance education.

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Adjunct Faculty in Distance Education

What Program Managers Should Know

Sandrine Gaillard-Kenney

A NEW BREED OF FACULTY MEMBER

A GROWING TREND

Many institutions offering distance education programs have increased their reliance on online adjuncts as their enrollment numbers have soared (Brewster, 2000). For example, Jones International University has 125 adjuncts on staff, with only six full-time faculty members (Carnevale, 2004).

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Sixty-four percent of the faculty members in community colleges are part-time (Ellison, 2002). Lake Superior Community and Technical College in Minnesota quadrupled its online enrollment in 2003 and had to hire an additional 31 adjuncts (Foster, 2003). The online Master of Health Science at Nova Southeastern University employs two full-time faculty and three times as many adjuncts. Several reports indicate that opportunities for tenure track are declining overall (Anderson, 2002; Holub, 2003). Citing studies conducted by the U.S. Department of Education, Holub (2003) puts forth the reasons for this trend as including cuts in state and federal funding, state or federal policies impacting personnel policies, and a mounting negative opinion of the current tenure system. Of particular interest is the increased need for flexibility due to the demands of online education.

This new trend may reflect the reluctance of full-time, tenured faculty to use technology. The part-time faculty members seem more flexible and ready to embrace online education. Oftentimes, part-time faculty members come from the corporate world, where the use of technology is generally much more common than in traditional academic institutions. They possess those technology skills and are not afraid to innovate in the classroom more than their full-time tenured counterparts (Carnevale, 2004; Pratt, 2000).

CHARACTERISTICS OF ADJUNCTS

Anderson (2002) reported that adjunct faculty members are likely to be female and younger than full-time traditional campus faculty. They are also likely to hold a master's degree. In terms of health and other benefits, compensation, and academic support, they fare significantly worse than their full-time counterparts. However, they show the same level of overall job satisfaction. This might be due to the job flexibility adjuncts enjoy as opposed to full-time faculty.

The work of Gappa and Leslie on "The Invisible Faculty," was summarized by Lyons (2000). Part-time adjuncts can be divided into four different categories. The "experts" are people employed full-time outside of academia. They may be employed in the corporate world and teach specialized courses. This is one of the selling points of the University of Phoenix for example (University of Phoenix Website, 2005). The "career enders" are people retiring or cutting down on their hours as they approach retirement. The "freelancers" like the flexibility of part-time assignments and combine work with several different institutions. The "aspiring academics," who are trying to get tenured positions, are the fourth type of adjuncts, but remain a minority (Lyons, 2000).

Adjuncts are akin to entrepreneurs who sell their knowledge in the academic market. Some even build their own teaching business, as can be seen on the site of "Adjunct Solutions" (http://www.adjunct-solutions.com). These new professionals develop and teach courses to answer market demands (Hess, 2004).

GETTING THE BEST

One of the reasons for the popularity of contract or adjunct faculty is that a university can hire specialists in their fields for a specific course or curriculum (Holub, 2003). Program directors can contract a specialist from virtually anywhere in the world, especially if the course is delivered at a distance, without paying the significantly higher cost of an equally qualified full-time faculty. Online adjuncts typically hold graduate degrees and have years of experience in a specific field, hence bringing experience to the classroom and establishing a connection for the students between the classroom and the professional world (Anderson, 2002; Carnevale, 2004; Lyons, 2000). Studies have shown that there is no significant difference in the quality of teaching between part-time and full-time faculty (Lyons, 2000).

FLEXIBILITY

Flexibility of hiring decisions for institutions is a major advantage (Holub, 2003). For part-time adjuncts, flexibility of location and ability to contract with several different institutions offers many possibilities (Holub, 2003). Carnevale (2004) conducted a detailed interview of one of these off-site, part-time adjuncts and reported that she was able to teach for four different institutions in three different states. She listed the main advantage as freedom to choose assignments and institutions to contract with.

Many part-timers are willing to teach in the evening and on weekends. This is of tremendous importance for institutions, as enrollment of nontraditional students continues to increase (Lyons, 2000). They also enable institutions to offer specialized courses that would not justify a full-time position.

CHALLENGES

The flexibility and lack of strong ties between the part-time adjuncts and the institutions are also a source of challenges. The key factors to ensure successful distance teaching are listed by Mielke (1999) as being: teacher enthusiasm, organization, dedication to fostering interaction between learners, comfort with the course

technology, and technical and academic support. These are extremely difficult conditions to achieve when adjuncts faculty members are paid by the course and rarely (if ever) come to the campus.

QUALITY OF INSTRUCTION

Far from arguing that adjuncts may not be qualified, the argument remains that an effective professor needs to be connected to a brick and mortar institution and able to hold office hours, even virtual ones (Carnevale, 2004). Another concern is that part-time faculty are oftentimes left to their own devices when it comes to employing instructional strategies. Questions of quality control arise, as well as academic freedom and research potential. Academic freedom is traditionally linked to tenure, which adjuncts do not have (Marshall, 2003). A part-time adjunct is not expected to conduct research and is unlikely to contribute to decision making and policies of the college. Hess (2004) criticizes the practice of hiring of adjuncts who design courses as products to be taught over and over without much maintenance to maximize profit.

ISOLATION

Part-time faculty members show less involvement in curriculum development, instruction, and scholarship (Freeland, 1998). They may lack the opportunity, motivation, and incentive to become involved in curriculum development or other program activities (Holub, 2003). Part-time faculty members who teach for several institutions also impede their availability to participate in conferences and committees (Hollowell, 1998). Isolation, frustration, and lack of recognition are common feelings of adjuncts as they feel marginalized in the teaching profession (Pratt, 2000; Yohe, 2000).

MANAGEMENT AND HIRING ISSUES

Beyond the issues of quality control when a distance education program relies too heavily on part-time distance faculty and allegiance associated with online or on campus part-time adjuncts, issues of status and personnel management emerge for this particular type of employee (Carnevale, 2004). Hiring, interviewing, orienting, integrating, and evaluating adjuncts are some issues institutions need to face (Brewster, 2000).

Concerns are emerging that academia is being overrun by this new breed of faculty (Carnevale, 2004). There is a fear that colleges are relying too heavily on and taking advantage of their online adjuncts. The American Federation of Teachers (AFT) has complained about the rising number of distance education institutions awarding degrees without any face-to-face interaction and reliance on distance adjuncts. In 2002, the AFT prepared a series of standards for the treatment of part-time faculty members, suggesting equal pay, paid office hours, a seniority advancement system and specific evaluation policies and procedures (Smallwood, 2002). Rice University even acknowledged that some of their adjuncts were underpaid (Hess, 2004).

However, it is worth noting that adjuncts are starting to organize. It seems that they are somewhat able to negotiate for improvement of their status. A landmark decision by a judge in Alaska granted part-time faculty the right to form a union. The Alaska adjuncts had not received a raise in 20 years (Basinger, 1998). Although isolated, this decision may pave the road for more similar actions forcing academic institution to review their practices when hiring and compensating adjuncts.

The conditions of faculty employed as adjuncts have also been denounced, as they do not have job security or guarantee of renewed contracts. Institutions do not invest the same amount of time and money into their adjuncts, because they are not thought of as "real" team members

(Ellison, 2002). They can be isolated from the institutions and viewed as "second-class" faculty. They can be hired as a mere convenience to fill a temporary need if a full-time faculty member is on leave or if no one else is available to teach the course. Compensation and benefits for part-time faculty are typically well below levels received by full-time faculty (Hom, 2001).

Because part-time faculty do not have the opportunity to participate in research or activities in the institutions, their resumes lack consistency and substance (Hollowell, 1998). This vicious circle keeps them in the same situation in the academic world.

SOLUTIONS FOR PROGRAM MANAGERS

SOUND ADMINISTRATIVE PRACTICES

To avoid overrelying on online adjuncts, and to maintain the same academic integrity online as in on campus courses, some higher education institutions have devised plans, including requirement of the same qualifications from professors regardless of the delivery modes. They also try to keep the proportion of adjuncts and full-time faculty similar in online and on-campus courses. Instructors can be trained through certification processes designed by the institutions (Carnevale, 2004).

The Office of Human Resources needs to play a key role in the screening, selection, and training process of adjuncts in collaboration with the academic departments (Schnitzer & Crosby, 2003). The individual in charge of hiring needs to be aware of issues—such as salaries, benefits, and certification requirements—associated with this academic population. Provisions need to be made if the adjuncts are online and do not come on campus for even an interview. The availability of resources for online or on-campus adjuncts needs to be addressed, along with the delivery mode. Assessment of those resources will help determine how many adjuncts to recruit (Schnitzer & Crosby, 2003).

SCREENING AND HIRING

Schnitzer and Crosby (2003) are especially concerned with the issues related to online adjuncts. They recommend making a list of desirable characteristics and asking scenario-based questions during the interview to assess the candidate's reaction to problems that are sure to arise in the distance education environment. If a face-to-face interview is not possible, they recommend assessing how the candidates interact online and their level of grammar and writing skills.

Once an institution decides who to hire as an adjunct, it is essential to write up a contract. This contract should clearly establish the nature of the teaching assignments and expectations. For example if the adjunct teaches online, issues such as frequency of interaction with the students need to be clarified. Having a contract ensures that the adjunct is aware of the conditions of the employment and can help establish ground rules (Schnitzer & Crosby, 2003).

INVESTMENT OF RESOURCES

Considering adjuncts lesser faculty than full-time professors is damaging for the institution in the long run and does not encourage part-time faculty members to fully invest themselves in their teaching. Ellison (2002) and Labeouf (2000) stated that adjuncts should be considered equals and be involved in the institution's efforts to promote excellence. Lyons (2000) contends that even though faculty development money may be tight, investing some of it in adjuncts reaps many benefits on the educational and instructional levels. It also positively impacts the overall morale and perception the adjuncts have of the institution. This also influences their level of commitment to the school. Before teaching an

online course, it is essential that the faculty go through training in the use of educational technologies (Garells, 1997). Rather than losing adjuncts and having to hire new ones on a regular basis, investing in people through training will save the institution time and money, and will promote consistency in teaching.

ORIENTATION OF ADJUNCTS

After the hiring decision has been made, institutions should schedule an orientation to help the new recruits feel part of the organization. Online orientations can be organized. Online adjuncts can familiarize themselves with their new employers through the use of streaming video (Schnitzer & Crosby, 2003). An orientation should include administrative and instructional information, as well as a comprehensive overview of available resources. The Community College of Baltimore County developed an orientation that promotes knowledge sharing and learning communities by requiring all new faculty members to attend a 2-hour biweekly meeting during their first year (Ebersole, 2003). In the context of online programs, an orientation could be held through chats or discussion board to provide that initial needed support.

ADJUNCT PROFESSIONAL DEVELOPMENT OPPORTUNITIES

Beyond the initial orientation, provisions for subsequent faculty development opportunities are also essential in combating the feeling of isolation and to ensure quality of teaching. A sound faculty development program needs to be user friendly, flexible, and well-organized. Training and support for adjuncts may take many forms. Everglades University in Florida provides monthly adjunct faculty training online (Neil Kenney, personal communication, May 15, 2005).

For off-site adjuncts, one of the solutions to foster a sense of belonging with the university is to develop material such as faculty handbooks tailored specifically to their needs. Grieve (2003) has been developing such handbooks focusing on useful teaching strategies such as how to motivate the student or how to connect with adult learners. A simple hard copy faculty handbook, such as the one produced at Florida Community College at Jacksonville (2000) can provide support and references.

Whenever possible, physically setting up space for adjuncts to feel more at home on campus, such as the "Adjunct Faculty Commons" at Washtenaw Community College in Michigan, is another approach. This physical location provides access to equipment and working spaces, and also development and training opportunities (Yohe, 2000).

McFarland (1998a, 1998b) designed and assessed a training program specifically for distance education adjunct faculty. This program was a 12-week, self-paced video program. This program resulted in significant improvement in skills with online software and utilities.

The University of Illinois (2004) created the Illinois Online Network (ION) with instructional resources for faculty such as how to create course objectives, how to encourage student participation online, and so forth. The ION introduces faculty to the characteristics of online teaching and delivers the contents in a self-paced, independent manner. Distance adjuncts can access those resources and learn about the different learning styles and the types of online activities catering to each.

Pennsylvania State University World Campus also caters to the needs of its online faculty by putting its faculty development program online (2004). The institution designed a course entitled "Faculty Development 101" to introduce online education to its faculty, and to assist in authoring and teaching a course in the

online environment. Learning about the needs of online students, how to determine course goals and objectives, and how to choose the technology are all objectives of "Faculty Development 101."

Other institutions, such as the University of Maryland, design in-house training programs that result in teaching certificates (Schweber, Kelley, & Orr, 1998) blending initial training, observation, practice, mentoring, and discussions. Virtual faculty lounges can be created to encourage communication between adjuncts and exchange of tips (Carnevale, 2004).

Beyond the initial training, adjuncts need to benefit from professional development sessions through their careers to keep up with the changes in technology. The University of Maryland offers stipends to encourage adjuncts to participate in refresher courses. Workshops are also helpful in retaining adjuncts and keeping them effective (Schweber et al., 1998). To promote collaboration quality and consistency, leaders at the program or departmental levels and instructional technology teams need to plan technology training that will support the needs of part-time faculty (Reasons, 2002).

RELATIONSHIPS WITH FULL-TIME FACULTY

Adjuncts should be an integral part of the system and interact with full-timers. There may be some tensions between full-time and part-time faculty members that need to be diffused in order for a true teaching community to emerge (Freeland, 1998). Opportunities for collaboration should exist to facilitate scholarly exchanges and the building of a teaching community (Schnitzer & Crosby, 2003). Full-time faculty and part-time faculty have much to learn from each other and can be mentors or sharers of experience with technology.

ADDITIONAL RESOURCES FOR ADJUNCTS

As the number of adjuncts is increasing and those professionals are starting to organize and build an identity, new resources providing support and information are appearing. For example, "Adjunct Advocate" (http://www.adjunctnation.com/magazine) is an international publication entirely dedicated to these issues. The Website "Adjunct Solutions" (http://www.adjunctsolutions.com) coaches adjuncts on how to build a successful and profitable career.

CONCLUSION

Adjuncts play an essential role in answering higher education institutions' needs for specialized courses and flexible employees. Program managers and educational leaders will likely need to hire adjuncts as programs grow and tight budgets do not allow for full-time positions to be created. Ensuring fair treatment, sound training, and consistent support for those part-timers is essential to deliver high-quality courses and to develop satisfied and loyal employees.

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Online Learning Environments

A Report of an Instructional Design Case Event

Myung Hwa Koh and Robert Maribe Branch

INTRODUCTION

There are too few opportunities for learning service professionals and students to practice authentic instructional design as a part of their respective training and academic preparation. The professional practice of instructional design (ID) requires high-level problem solving, critical thinking, and interpersonal skills because design problems are often complex and multidimen-

sional. Novice instructional designers encounter practical issues for which they are unprepared (Julian, Larsen, & Kinzie, 1999). Analyzing cases provides an opportunity to explore professional issues while students learn (Kinzie, Hrabe, & Larsen, 1998). A case approach aids the instructional systems design (ISD) learning process and helps to facilitate further research of online learning environments. Learning through a case-based environment allows

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novice instructional designers to analyze the case, reflect on relevant theories and techniques in attempting to understand a real problem, develop a response, and consider potential consequences.

Case studies have been an effective tool for developing professional knowledge across disciplines; however, case events dedicated to the study and practice of instructional design are limited among learning services professionals. This article is based on the experiences of the authors during a recent instructional development project using authentic training cases for online learning environments and similar distance education contexts. We have explored aspects of an educational approach using an online case event that served to provide designers with an opportunity for teamwork in an authentic environment. The components of this discussion include: (1) an overview of the case method as a learning strategy, (2) the role of a case in an online learning environment, and (3) learning instructional design from a case experience.

THE CASE METHOD AS A LEARNING STRATEGY

Online case-based events are student-centered, active learning experiences in which students can reflect on relevant theories and techniques in attempting to understand a genuine problem and develop the most appropriate response by considering a variety of acceptable responses to a given situation. Case methods help students examine theories during the learning process and to apply these theories to situations they may encounter upon completing a distance learning course. Authentic instructional design should emphasize learning objectives that represent the training context while on-the-job objectives represent the actual performance context. Learning objectives describe what the learners will be able to demonstrate

within the learning environment. However, the learner's performance in the classroom or at the computer in a distance learning environment is not necessarily the same as on-the-job performance. Learning on simulators, models, through hands-on practice, role-play scenarios, and actual equipment and tools provides more effective training than learning exclusively from lectures, demonstrations, and other passive techniques.

Online case events provide authentic learning experiences for students, so it helps them to investigate various solutions based on their situation and find a final solution. Over the past year, a case method approach has been explored by constructing an online case event (http://www.itcaseevent.com/) hosted at the Educational Psychology and Instructional Technology Department at The University of Georgia. The online case event provides an opportunity for novice instructional designers to use instructional systems design in an authentic, team-oriented online learning environment. The process of participating in the case event is a rewarding, challenging, and complex endeavor. While developing a case for an event, consideration should be given to the fact that novice instructional designers require a genuine problem to reflect the situations that they would encounter in the workplace, or approximate this environment as closely as possible. The intended audience for the event needs to be determined. The rationale for authentic learning is that learners can only realize the utility of the concept being taught by focusing on an authentic problem and, hence, providing an authentic solution. Each episode of guided learning is distinctive and separate, while remaining part of a larger curricular scheme. By using case methods and an online learning environment, students' learning space becomes larger than a traditional classroom and is similar to performance space (see Figure 1). A case
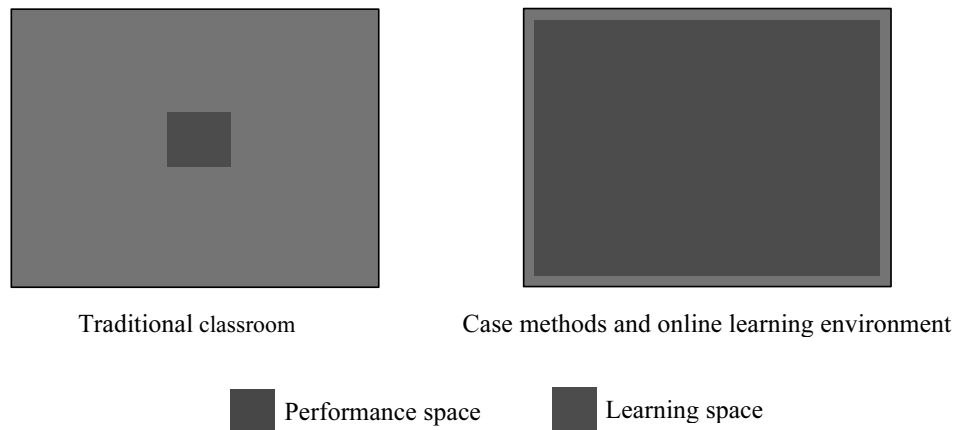
Figure 1. Traditional classroom compared to potential for online learning environment.

needs to be created that illustrates an authentic problem requiring an instructional design solution.

Case events help learners to think like practicing professionals by allowing them to seek solutions in realistic situations. Case events have been used extensively in professions such as law, business, and medicine, and more recently have gained popularity in other professions such as teacher education, engineering, nursing, and instructional design (Ertmer & Russell, 1995). Merseth (1994) advocates case study methodology as an appropriate tool for teacher education, stating that a case study is a descriptive research document, often in narrative form that is based on an authentic situation. According to Merseth (1996), "there are three purposes for using cases: (1) cases as exemplars; (2) cases as opportunities to practice analysis, the assimilation of differing perspectives, and the contemplation of action; and (3) cases as simulations for personal reflection" (p. 3). Case studies provide realistic scenarios that encourage students to recognize the link between theory and practice, weigh resource constraints in choice alternatives, practice analytical skills, and develop related skills such as group decision making and com-

munication (Ruth, 1993). Thus, the case-based approach assists students in examining theories and applying them to their situations, so it helps them to close the gap between what happens in the classroom and expectations associated with performance realities outside the classroom.

Cases provide students with genuine opportunities to experience the risks and consequences associated within a defined context, allowing students to explore professional issues while they are still learning about design, yet within a safe environment. Case events allow students to construct knowledge in authentic environments, assume personal responsibility for learning, and work cooperatively to produce something of real value (Grabinger, 1996). Kinzie et al. stated, "cases should offer enough depth and complexity to provide realistic challenges" (1998, p. 55). Case-based competition is beneficial to learners because knowledge and skills are best learned in contexts that reflect the way they will be useful in various realities. Learning in a case-based environment allows teams to analyze a case while experts in the field pose questions, evaluate case responses, and contribute their own perspectives.

THE ROLE OF A CASE IN AN ONLINE LEARNING ENVIRONMENT

Internet technologies provide an effective vehicle for delivering cases to students and other case event participants. The use of the Internet provides case materials and online environments for case discussion. The Internet provides a unique environment for presenting case studies that allows users to gather information, identify issues, create solutions, receive feedback, and gain experience through problem solving. The interactive nature of the Web and e-mail encourages students to consider various perspectives and possible solutions and to develop a rationale for decision making while enabling worldwide discussions.

Case studies are now available online, and case discussions can be conducted using asynchronous and synchronous online discussion tools. Perry (2000) claims that the "Internet and multimedia, which includes the nonlinear integration of video, audio, graphics, and text, can provide a rich environment for case studies that promote the construction of knowledge about integrating technologies into the curriculum of a learning community of peers and faculty facilitators" (p. 4). The online instructional design case event discussed here subscribes to Perry's position that an online case experience promotes an integrated, action learning approach with the potential to increasing effective practice. Kovalchick, Hrabe, Julian, and Kinzie (1999) suggest that the Web provides three significant capabilities for the delivery of case studies: the ability to simulate real-world complexity, the ability to use multiple media in case presentations, and the ability to use hyperlink/hypertext navigation features.

Presenting case studies on the Web offers additional educational benefits, including incentives to learn new and flexible learning methods (Hayden & Ley, 1997). The contention here is that the capabilities as described herein are an effective way to learn instructional design at a distance.

LEARNING INSTRUCTIONAL DESIGN FROM A CASE EXPERIENCE

Instructional design is often learned informally on the job or as an isolated, stand alone college course. However, recent evidence suggests an action learning approach as an effective strategy for becoming proficient in the practice of instructional design (Bannan-Ritland, 1999). The principles of an action learning approach provide a framework for re-examining methods of teaching instructional design. Action learning is an instructional strategy used in training and education to increase the fidelity between learning performance and job performance. The problem is that many training tasks are decontextualized and incongruent with workplace realities due to ineffective distance education strategies, thus having a low fidelity between what occurs during classroom preparation and what is expected on the job. Action learning is a performance-oriented, learner-centered, instructional strategy. The purpose of action learning is to promote immediate and long-term learning transfer. Action learning is facilitated through a coaching model approach in which an experienced person is partnered with an individual or team and the coach is available to answer process questions during the training and for a designated period after completion of the training. While action learning incorporates several learning theories, five attributes are necessary for an instructional strategy to be considered as an action learning approach: active, interactive, situated, authentic, and case based.

Components of action learning correlate closely with the specific challenges involved in teaching the ill-structured, complex problem-solving processes of the practice of instructional design. An action learning approach provides instructional

design practice in businesses, schools, and government as a part of their respective training and academic preparation prior to assuming employment as an instructional designer. Authentic instructional design should emphasize learning objectives that represent the training context while on-the-job objectives represent the actual performance context. Learning objectives describe what the learners will be able to demonstrate within the learning environment.

RECOMMENDATIONS

We have explored the role of a case or an authentic scenario in an online learning environment, and investigated aspects of an educational approach using an online case event that served to provide designers with an opportunity for teamwork in an authentic environment. This discussion has focused on ways in which online case events provide opportunities for learning service professionals to engage intellectually in solving authentic instructional design problems. The following recommendations are offered here, based on the belief that experiences shared by participants in an online case event promote discussion of complex educational dilemmas, reflection on successful learning strategies, and ways to evaluate issues in instructional design.

1. The case event should illustrate a genuine and authentic problem that requires an instructional design solution.
2. The case event should be designed to challenge participants to demonstrate knowledge of instructional design principles and this exercise should incorporate the problem that was presented.
3. The project manager for the online case event should be chosen based on ability to generate a plan for communi-

cation between all stakeholders and excellent time management skills.
4. Careful preparation allows design teams to anticipate obstacles and potential barriers to accomplishing their goal.
5. The support of the design team and client are important. Sufficient aid from external sources is imperative, including technical support staff and colleagues with mutual goals at other distance education training organizations.

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Courtroom of the Future Available Today
West Virginia Supreme Court Connects Magistrate and Regional Jails with Videoconferencing

Kristin DeProspero

The Supreme Court of Appeals reigns as West Virginia's highest court, hearing appeals from cases decided in circuit courts. Cases include criminal convictions on appeal from magistrate court and administrative agencies. West Virginia is one of only 11 states with a single appellate court, this one encompassing 55 counties and 100 courts. The Supreme Court of Appeals of West Virginia

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ranks as the busiest appellate court of its type in the country, scheduling 100,000 to 150,000 first appearance hearings a year.

West Virginia technical staff explored using videoconferencing because the regional jail system was spending millions of dollars transporting inmates for initial courtroom appearances. On average, it took 4 to 9 staff hours to transport a prisoner from the jail to the magistrate court for a first appearance hearing. Within the first year of use, videoconferencing saved the state $30 million in transportation costs.

"We needed technology that would make the judicial process more efficient," said Deputy Director for Technology for the West Virginia Supreme Court of Appeals Kit Thornton. "Polycom offered a robust solution easy enough to use for courtroom officials and jail staff."

BUILDING THE COURTROOM OF TOMORROW

When the court system first integrated Polycom equipment, the state had no videoconferencing operators on staff and few judges/magistrates were trained on the technology. The court needed a teachable interface and a technical team to manage integration.

The technical team consisted of Billy Blake, a Verizon network integrator, Kit Thorton, Esq. (now deputy director for technology for the Supreme Court of West Virginia), and Fletcher Atkins, (manager of support services). Judge Dan O'Hanlon also played a valuable role in the program, adding direction and funding support, vision, and outreach across the state. The team worked together to develop the network, train staff, and troubleshoot installations.

The state readily accepted the Polycom proposal for the Supreme Court because of the quality of Polycom's IP system. End-user training, however, raised concern from attorneys and court officials. The image of a judge or magistrate is held in high regard. If a judge cannot use the technology without interruption or flawless interface every time, he or she will refuse to use it.

"Court systems have to use a proven technology backed by a responsive company that will understand unique needs," said Thornton. "Polycom provides this reliability. The interface is intuitive and service and repairs are performed quickly."

"Polycom's solution has far exceeded our expectations," said Blake. "I only hear praise from end users about how easy the Polycom equipment is to use."

USES FOR VIDEOCONFERENCING

The network supports approximately 100 Polycom units connecting nine regional jails and 55 counties throughout West Virginia. Supreme Court technical staff rolls out equipment weekly and plans to add 60-70 units in the next year.

"Every interaction affected by distance now uses videoconferencing—jails, courts, schools, city hall," said Thornton. These include:

• Initial appearance hearings;
• Civil trials—which may include expert witnesses;
• Family courts—used when one family member is incarcerated;

• State Supreme Court—uses videoconferencing for continuing legal education classes at 30 sites;
• Town meetings—allows community members better interaction with the state's legislative branch;
• Education—parole officers use videoconferencing for interviews; and
• Testimony—allows sexually-abused juveniles to testify under statutorily established rules without coming in contact with the defendant. This option provides emotional security and has proven successful in the circuit courts.

OTHER CONSIDERATIONS

For anyone considering the creation of similar courtroom interactions, the technical staff of the West Virginia Supreme Court recommends the following:

1. Training. Use a trainer, not a technical person, to teach end-users how to operate the equipment. In court-specific applications, consider using a judicial official or court-experienced attorney as your primary contact/chief trainer.
2. Focus on end-users. Include an end-user in your planning and implementation stages. This helps ensure your training and usage messages are targeted appropriately.
3. Technical support. Technicians have to understand the technology must be available 24/7. Disruption of a court's schedule is an unforgivable sin in the eyes of many judges.
4. Communication. The entire staff needs to understand the political and social environment of the courtroom. Technical staff must be trained, and frequently reminded of the unique culture—political and personal—that surrounds the judicial system. Judges will not tolerate being, in one judge's memorable phrase, "Condescended by a button-pusher."

5. Proven reliability. When selecting a technology, look for leading-edge solutions but not the bleeding edge equipment. Proven reliability is most important, not trendy equipment.
6. Buy-in. Any kind of change, particularly technology, will face resistance. Focus on areas with least resistance and build support. Word-of-mouth will generate support in harder-to-convince areas.
7. Single project lead. Select one person who will be in charge of the entire project. A committee will create confusion. The head of the project must have, and maintain, the trust of the end-users, especially judicial officials.

ABOUT THE WEST VIRGINIA SUPREME COURT OF APPEALS

The Supreme Court of Appeals is West Virginia's highest court and the court of last resort. West Virginia is one of only 11 states with a single appellate court. The Supreme Court of Appeals of West Virginia is the busiest appellate court of its type in the United States.

The five Supreme Court justices hear appeals of decisions over all matters decided in the circuit courts, including criminal convictions affirmed on appeal from (Circuit) court and appeals from administrative agencies. Workers' compensation appeals are unique, and are appealed directly to the Supreme Court from the administrative agency. The Supreme Court justices also hear appeals of decisions decided in family court if both parties agree that they will not appeal directly to the Circuit court. For more information, see the West Virginia Court System Website: http://www.state.wv.us/wvsca/

www.CILC.org

A Website That Helps Educators Move From Novice to 'Nowledgeable

Kimberly Tyson

> **Novice:** a person new to a field or activity; a beginner
>
> **Knowledgeable:** someone with specialized information and experience relating to a particular area

INTRODUCTION

When training teachers, media specialists, technology coordinators, and others new to videoconferencing, we desire to move them quickly and efficiently from being *novices* to *knowledgeable* professionals who are informed about the wealth of possibilities and educational opportunities available

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through videoconferencing. It can often seem overwhelming and time consuming for novice users to find and explore the many avenues of opportunities available. Many new users, excited about videoconferencing possibilities, initially desire to put the technology to work by connecting students to content providers, connecting teachers to professional development opportunities, and exploring collaborative projects across the nation and the globe. When training those new to videoconferencing, I quickly point them to www.CILC.org, a powerful Website and asset for videoconferencing users. Discovering the many and varied opportunities found on the Website helps novices make the transition to knowledgeable users occur much more quickly.

The Website—which enables schools and other groups to employ videoconferencing as a powerful instructional tool—is an online resource hosted by the Center for Interactive Learning and Collaboration (CILC), a not-for-profit organization that provides videoconferencing services and programs. This article highlights membership features, content, tools and resources, and services found at the www.CILC.org Website (see Figure 1) and available to those whose skills range from novice to knowledgeable.

Figure 1. Screen shot of the www.CILC.org home page.

Free Membership

Membership is not required to explore the CILC Website, but it helps users take full advantage of the resources available. There are three levels of free membership: individual, site, and content provider.

Customization is a key element for the individual member. For example, a middle school teacher in California may submit preferences to receive weekly notification of new programs or special events specifically suited to enhance course content or a specific age level—all automatically converted to Pacific Time Zone. Members can also post to the Collaboration Center—a virtual clearinghouse of sorts—where students and teachers desiring to collaborate with others post descriptions of their classroom or content projects in hopes of finding connections to others of similar interest.

Value-added benefits are available to those who sign up for a site membership. Videoconferencing site coordinators or managers enjoy time-saving additional benefits, such as the ability to request content and professional development programs through the Website. Additional, job-embedded features include site management tools and program confirmations. Gloria LeMaster, the media director at Alexandria-Monroe High School in Indiana, uses these features frequently. She recently shared that she "sends out a monthly listing of the upcoming events and [finds it] easy to search for programs using the calendar feature, copies and pastes the ones she feels are appropriate

into a word document and e-mails it to faculty."

Content provider membership is available to organizations offering programs through videoconferencing. These members have all the benefits of the previously mentioned user categories, as well as the ability to post programs free, thus gaining national and international visibility. Administrative tools, time zone converters, evaluation feedback, and more are available to this member group. Kara Centofante, responsible for Artistic Outreach at the Indiana Repertory Theatre, notes the value of the content provider membership as "an irreplaceable marketing tool. Teachers and coordinators from all over the United States have come to us for programming via the website!"

Other content providers appreciate benefits for their clients. Nora McGrath, the education director for Aquatic Research Interactive, notes that the Website "has made scheduling easier for us and our clients; especially since we can now have our out-of-network sites use it as well." In regard to management features, McGrath adds that "being able to view the status of all program requests directly on the Website and cancel them if we need to is an added bonus."

Clearly, free membership provides benefits for *all* users—individuals, sites, and content providers.

CONTENT PROVIDERS

Content providers offer a wide range of educational programs and often provide the hook to initially interest teachers and students alike. The CILC Website serves as a content destination well known among educators for its comprehensive program listings. Content providers include hospitals, libraries, universities, museums, businesses, and more.

Programs are offered through partnerships with over 100 content providers who have a reputation for delivering meaning-

ful, educational, standards-based content. Educators have access to hundreds of content offerings that range from the arts to science to healthcare. Each program is accompanied by additional instructional resource materials that include student learning objectives, related vocabulary words and definitions, national and state standards addressed by the program, pre- and postprogram activities, and supplemental resources such as related Websites or reference books.

At the CILC.org Website, members can search the database for over 600 unique offerings available through videoconferencing. Novices quickly become adept at searching for content programs by key words. Knowledgeable users understand that narrowing the search by grade level, dates, or content providers yields more specific results. Members may also request weekly e-mail updates that feature all new programs *or* only those programs that match their specific preferences. Linda McDonald, an instructional technology facilitator in the Katy Independent School District in Texas, regularly uses this feature. She recently called "finding CILC's Website a blessing!" McDonald adds that the Website has "provided a great way to look for programming that matches our curriculum objectives, very specific to Katy, Texas." She also enjoys the "update that keeps [her] up to date on new programs that suit [her] campus needs."

In addition to regularly scheduled programs, many providers customize their content programs as well as deliver them on a date and time that works for educators. Christian Monroe, the Oakcrest (New Jersey) High School Distance Learning Coordinator, has scheduled numerous customized programs with the help of CILC staff. Christian recently remarked that "CILC [staff] were wonderful people to work with, and made it their responsibility to try to accommodate every request I made. If they didn't have a certain program, they didn't just say, 'Sorry.' They

looked into the topic carefully and asked their providers if they could create something for us." So, not only is the Website helpful for educators but, in addition, the face behind the Website—CILC staff—is helpful as well.

Finally, the *content rating system* (see Figure 2) is a valuable feature that appears on content search pages. The rating system is easy to use and simple to interpret—a plus when rating systems can sometimes be more confusing than enlightening! A program that appears with a star next to the title indicates that it has been rated exceptional by educators while a "thumbs up" sign indicates that at least 75% or more of educators who viewed the program would recommend it to others (see Figure 3). Educators appreciate having the ability to provide program feedback through the rating system. Content providers, on the other hand, enjoy the feedback loop it provides them. Millicent Wright, manager of Artistic Outreach at the Indiana Repertory Theatre, put it this way. "Online evaluations have allowed us to keep track of much needed data, to make improvements to our programs and render better customer service." In a time of budget constraints, this simple rating system helps content providers improve programs while educators can stretch their content dollars and make wise decisions based on others' valuable feedback.

TOOLS AND RESOURCES

Novices to videoconferencing easily get hooked on the numerous educational opportunities for students through access to varied content offerings. Upon becoming more skilled and knowledgeable, they soon begin to realize that videoconferenc-
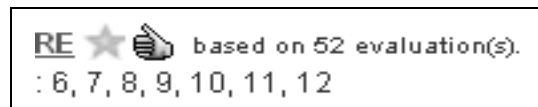
Figure 2.   The star and "thumbs up" rating system.

Figure 3.   Screen shot of several Content Programs and their ratings.

ing provides a nearly perfect vehicle for making meaningful, educational collaborations possible, whether working with another group of students across the state, nation, or around the world. Finding collaborative partners can prove to be the more difficult piece of the equation.

The online Collaboration Center, found under "Tools and Resources" on the home page, is one of the key enhancements to the retooled CILC.org. A powerful, free tool available to members, the Collaboration Center creates a unique opportunity for educators and other videoconferencing users to create innovative partnerships to enhance learning. Teachers, site coordinators, or administrators can log on to the Collaboration Center to search postings or to post a request. Knowledgeable users will likely choose to limit their search by using a variety of delimiters, which may include: target audience such as education, library, business/community, or healthcare partners; time frame of collaboration; and key content words.

New collaborative opportunities appear often. In a recent week, collaboration postings were made from educators in Indiana, Texas, New York, and China. Really interested in collaborating but don't have the time to keep abreast of new postings? CILC thought of that, too. Registered users may create a MyCILC.org Member Profile and request a weekly e-mail that highlights all new collaboration requests or just those requests that match your specific preferences.

Other beneficial resources are also found at the CILC.org Website. An online Resource Directory, tips for users, and an E-newsletter provide valuable tools for becoming more knowledgeable about videoconferencing. The Resource Directory of experts allows users to search online for expert resources on myriad topics, and then contact them via the Website. In addition, novices can take the fast track to look like a "pro" by downloading free tips for everything from room set-up to tips for

maximizing interactivity during a videoconference.

Finally, CILC publishes a quarterly E-newsletter delivered to your Inbox—another option in a member's profile. The newsletters provide timely information of interest to educators. Recent CILC newsletters have included spotlights featuring several content providers, ideas on how to achieve a school improvement makeover, information about the upcoming Keystone Conference in Indianapolis, and school and community collaborative Vista projects.

SERVICES

Many novice users and organizations need guidance in order to maximize the value of videoconferencing. Knowledgeable individuals have learned that successful videoconferencing equals more than technology and equipment. For example, when used to its full potential, videoconferencing content serves as an effective educational tool that supports classroom curriculum and state standards. Through training, workshops, and consulting, CILC staff works with those in leadership positions and school teams to help them envision the possibilities and align videoconferencing applications with their organization's mission, goals, and beliefs. Whether your staff is made up of novices, knowledgeable users, or anywhere in between, CILC workshops are designed to help educators implement and integrate videoconferencing.

Knowledgeable videoconferencing educators, particularly those in leadership positions, often serve as a resource and facilitator for teachers, curriculum directors, and professional development directors. Being aware of the variety of professional development opportunities available through videoconferencing is one way to become a valuable resource.

Professional development opportunities, listed under *Services* on the CILC.org

home page, round out the diverse content that is available through CILC. They seek to provide experts in all content areas whose workshops focus on instructional best practices. A recently featured national expert, Ruby Payne—author of *A Framework for Understanding Poverty*—reached over 400 educators from across the United States through a CILC-sponsored workshop series.

To keep current on new professional development offerings, members may access and download a current calendar of professional development opportunities and register for workshops and credit courses offered through CILC. These opportunities provide teachers with ongoing professional development and access to experts in various content areas fields with much less expense and hassle! They also offer leadership and lifelong learning venues for administrators, parents, and the community.

Another educational focus that has moved to the forefront is that of students exploring authentic community issues. Known as the CILC Vistas program, Vistas focus on creating vital community partnerships and collaboration between students, schools, public and government entities, and community organizations to focus on creating solutions to a community issue. Knowledgeable users involve the various participants by enabling them to communicate through videoconferencing and the Internet to conduct research, design solutions, critique recommendations, and present reports. Each Vista involves training and consulting services in problem-based learning instructional strategies, authentic learning, service learning initiatives, and technology applications. A teacher involved in a Vista project remarked that "the most significant aspect [of the project] is that students were involved in the community and engaged with a variety of people and experts." From a student perspective, learning through the Vista program is a "more hands-on approach."

Whether your school or organization needs assistance in integrating videoconferencing to maximize its' many possibilities, desires to take advantage of professional development opportunities, or chooses to have a hands-on student and community-based Vistas program, CILC staff competently provides it all.

SUMMARY

Videoconferencing is moving toward becoming universally accepted as a worthy instructional investment to advance standards-based learning and educational opportunities. Educators who have embraced videoconferencing are actively moving novices to become knowledgeable individuals and advocates for the many and diverse learning opportunities available for children and teachers. The www.CILC.org Website appears to be one simple and straightforward step to help achieve that goal.

"VISTAS FOCUS ON CREATING VITAL COMMUNITY PARTNERSHIPS AND COLLABORATION BETWEEN STUDENTS, SCHOOLS, PUBLIC AND GOVERNMENTAL ENTITIES, AND COMMUNITY ORGANIZATIONS TO FOCUS ON CREATING SOLUTIONS TO A COMMUNITY ISSUE."

Applying the Principles of Constructivism to a Quality E-Learning Environment

Abed H. Almala

The work of constructivist theorists, notably Piaget and Vygotsky, identified two constructivist learning models: individual constructivism, which states that knowledge is constructed from personal experience by the individual, and social constructivism, which declares that knowledge is acquired through collaboration with meaning negotiated from multiple perspectives. Advanced new technology has provided constructivist educators with valuable tools to design, develop, and teach quality e-learning courses. Educators could use effective technology-based applications, such as microworlds, virtual realities, and case studies, along with a quality computer management system (CMS), to simulate active and quality e-learning environments that might otherwise be unavailable to the learner.

This article focuses on the practical aspects of applying durable constructivist pedagogical strategies to design, develop, and implement quality e-learning courses and programs in which students assume significant responsibility toward their own learning; effective collaboration and meaningful engagement between students and instructor to establish productive discourse, constructive solutions to real-life problems, projects, and learning activities; and diverse evaluation approaches to assess student learning.

E-LEARNING

E-learning is an Internet-based instructional program which is distributed to learners electronically using electronic resources, Web features, (e.g., synchronous, asynchronous, hypermedia, and e-searching) and course management systems and technological interactive tools, such as WebCT, eCollege, or Blackboard. E-learning has taken center stage in higher education and is being developed by many national and international colleges, universities, and organizations. In a statement

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released in July, 2003, the Virginia Community College System (VCCS), a higher education umbrella of 23 community colleges, reported that "currently, at least half a dozen programs at about a dozen colleges can be completed completely online" (Virginia Community College System, 2003). According to the U.S. Department of Education (2003), the number of students taking distance learning classes doubled between 1997-1998 and 2000-2001. For instance, the University of Phoenix Online experienced 70% enrollment growth from 2001 to 2002 in its undergraduate and graduate e-learning degree programs (Shea, 2002).

These institutions of higher education, educational organizations, the business community, and learners that have embraced e-learning for a variety of reasons and needs refer to key factors such as flexibility, the use of mixed interactive multimedia, Internet research, archiving, electronic networks, telecommunications, and cost to support the idea that e-learning could serve as a viable and qualitative learning alternative. Some educators and learners, however, believe that e-learning cannot, and should not, replace classroom instruction, pointing out that the quality of face-to-face education must not be compromised by e-learning. Nevertheless, professional and scholastic individuals with such reservations often recognize that e-learning can be a valuable supplement and effective learning tool for mature and responsible students, and should be pursued. Hence, quality of learning is a deciding factor as to whether e-learning should be considered as a total and effective learning environment.

Quality e-learning is a Web-based learning environment designed, developed, and delivered based on several dynamic principles, such as institutional support, course development, teaching/learning, course structure, student support, faculty support, and evaluation and assessment (Phipps & Merisotis, 2000). Community

colleges and universities must offer high-quality e-learning courses and programs in order to meet the needs of the "new learner" who insists on convenience. However, institutions of higher education must take a hard look at their mission in terms of the region they serve. The availability of shared vision, technology, culture of the learning environment, instructional design, delivery options and strategies, maintaining quality and equity, cost factors, and the compatibility, aptitude, and self-discipline of participants are among the several issues that affect the success of a high-quality e-learning course and program. This article focuses on utilizing the principles of an emerging learning theory, constructivism, to construct a quality e-learning environment.

CONSTRUCTIVISM

Constructivism is a philosophy based on the principle that knowledge is created from experience. One key characteristic that distinguishes constructivism from other learning theories, such as behaviorism and cognitivism, is the nature of reality. The constructivist learning paradigm emphasizes that there is no single or objective reality "out there," which the instructor must transmit to the learner. Rather, reality is constructed by the learner during the course of the learning process.

Smith and Ragan (1999) define constructivism as "an educational philosophy within a larger category of philosophies that are described as 'rationalism'" (p. 14). These authors also explain that rationalism is "characterized by the belief that reason is the primary source of information and that reality is constructed rather than discovered" (p. 15). Furthermore, Driscoll (2000) suggests that "constructivist theory rests on the assumption that knowledge is constructed by learners as they attempt to make sense of their experiences" (p. 376).

Constructivists believe that learners are in control of constructing their own mean-

ing in an active way. In a constructivist learning environment, "learners are active organisms seeking meaning" (Driscoll, 2000, p. 376). This meaning is acquired on the basis of experience. Hence, learners have existing beliefs, attitudes, and knowledge that impact their learning. The learning process in the constructivist environment is focused on enabling students to use knowledge in many different settings to make the learning itself as real-life as possible.

The main tenets of the constructivist learning paradigm suggest that constructivism would be considered as a "postmodern" theory that reflects the intellectual and philosophical trends of the late 20th century. Driscoll (2000) summarizes the five major components of constructivism as being (1) a complex and relevant learning environment; (2) social negotiation; (3) multiple perspective and multiple modes of learning; (4) ownership in learning; and (5) self-awareness and knowledge construction. These tenets are useful for e-learning because they provide theoretical support for the learning activities conducted in a quality e-learning course.

CONSTRUCTIVISM AND E-LEARNING

The principles of constructivism meet the theoretical demands of a quality e-learning environment. In a synchronous or asynchronous e-learning course, students use their prior knowledge and the knowledge of their peers and instructor to enrich the class discourse and negotiation process and, therefore, find the appropriate solutions to the problem on hand. This learning process is founded, acknowledged, and supported by the principles of social constructivism. Constructivists focus on the process of learning rather than on the products of learning. The constructivist's instructional goals constitute reasoning, critical thinking, and the active and reflective use of knowledge. To support these learning outcomes, several tools and instructional models are used in the constructivist learning environment, such as problem-based learning, communities of practice, situated learning, anchored instruction, and cognitive apprenticeship.

Oliver (2000) emphasizes the importance of the Internet and its technological tools to facilitate constructivist learning when he states that:

> In collaborative classrooms, students still collect data, but they also report and share their findings with other classes online. Students can then access a global database of information, discuss observations with peers and professionals, and seek more problem-based information [that] may help them develop a better understanding of real issues. (p.13)

Lavooy and Newlin (2003) report that Computer Mediated Communication (CMC) "can produce very effective [e-learning] environment with high levels of interactivity" (p. 165). Further, McKenzie, Mims, Bennett, and Waugh (2000) surveyed 70 e-learning instructors at the State University of West Georgia and found that 81% of these educators used the bulletin board tool to teach online courses. Further, "students accessing CMC (Computer-Mediated Communication) at home had the convenience of privacy, a more relaxed atmosphere, a strong familiarity with their own computers, and the ability to exert greater control and flexibility over their schedules" (Tu & McIsaac, 2002, p. 142). These technology tools support active and reflective use of knowledge through the process of active interaction and collaborative teamwork among learners and between learners and class instructor. For instance, eCollege system allows learners, regardless of time and place, to share documents, collaborate and communicate with peers and instructor, and actively participate in threaded discussions, listen to digitized audio clips and view PowerPoint presentations. Other types of computer models, such as microworlds, allow learn-

ers to engage in simulated environments, and the Computer Supported Intentional Learning Environment (CSILE) encourages students to express, experiment with, and construct their views as well as exposing them to different perspectives.

CONSTRUCTIVIST-BASED E-LEARNING ACTIVITIES

E-learning students experience an authentic or meaningful activity when they facilitate a discussion and moderate a class. Oliver (2000) emphasizes that in a constructivist-based e-learning environment, "many constructivist lessons involve the use of teams or groups to facilitate discussion of concepts" (p. 7). Scaffolding by the facilitator or the instructor guiding the direction of the electronic discussion should be consistent. Vrasidas and McIsaac (1999) examined the level of interaction in an online graduate course and found only three messages posted by the course instructor in the 8-week asynchronous discussion. E-learning instructors should assume the responsibilities of the instructional expert by setting certain parameters for contributing to live or delayed electronic discussion, forming focused questions and contributing effectively and constructively in a class discussion.

Multiple perspectives and collaborative learning can also be experienced via electronic discussion. According to Driscoll (2000), "online collaboration enables insights and solutions to arise synergistically" (p. 385). This collaboration process supports and promotes multiple perspectives through dialogue and discourse and by allowing the learner to become an active member of a community of practice. Electronic discussions are one effective constructivist instructional strategy that foster social negotiation and test the viability of one's hypotheses or view on others. Oliver (2000) states that "if [e-learning] discussions are centered around a question or problem, students can learn by expressing their ideas, opinions, or solutions to others, by critiquing one another's proposed models, and by defending or modifying their initial models" (p. 9). For a quality e-learning environment, what should be done is to encourage more collaboration so that students can learn from each other as well as from the class instructor. Possibilities for learning are multiplied exponentially with group interaction (Tu & McIsaac, 2002; Vrasidas & McIsaac, 1999).

Constructivist e-learning instructors bear significant responsibility in the e-learning process. They need to empower and analyze the students and provide consistent feedback, reliable Web-based resources and ensure relevant and authentic activities in the class (Oliver, 2000). Vrasidas and McIsaac (1999) investigated the nature and level of interaction in an online graduate course and found that, due to poor class structure of asynchronous discussions, only 25% of students contributed to these discussions during the fifth week of the semester. In a quality e-learning course, "the presence of the instructor is noticed and desired—not as a personality, but as a course resource" (Conrad, 2002, p. 222). The e-learning instructor must provide the scaffolding within the learner's zone of proximal development and create relevant and engaging Web-based activities appropriate for the learner's construction of knowledge.

Oliver (2000) explains that the purpose of creating such authentic activities is to motivate e-learning students and provide them with the flexibility to conduct Internet-based research and present projects electronically that are meaningful to the class. The e-learning instructor should be an effective discussion facilitator and diplomat, able to change direction to meet the needs of students and still "maintain course" to ensure that students discuss relevant aspects of the environment, without stripping learning activities of applicable, tangential activities just because they are not directly relevant. Not surprisingly, all

the 230 e-learning courses offered by the Virtual-U included online group discussion areas (Campos & Harasim, 1999).

Problem-based learning is a constructivist instructional model in which students work in groups to solve authentic problems. Oliver (2000) states that "problem-based learning (PBL) has a constructivist framework because it encourages active construction of knowledge through personal inquiry, the use of problems to form disequilibrium and subsequent accommodating inquiry, as well as social negotiation and work with peers" (p. 6). Problem-based learning provides a problem solving process that students may use systematically to identify the nature of the problem, assign tasks to be completed, reason through the problem as data and resources are gathered and consulted, arrive at a solution, and then assess the adequacy of the solution (Driscoll, 2000). Once the problem is completed, students then reflect on their reasoning and strategies. In an e-learning course, students could use synchronous and asynchronous technology tools, such as a computer conferencing system and bulletin board, at anytime and any place to form activities for teamwork that focus on sharing ideas and experiences. Students use these tools to form hypotheses to solve real-life problems, collaborate actively to collect data, clarify findings and draw conclusions to offer a variety of alternative, constructive, and innovative solutions and recommendations.

ROLE OF E-LEARNING INSTRUCTOR

As an e-learning instructor, I have modeled my e-learning classes in a constructivist manner. I have provided students with guidelines and class expectations through the class syllabus. Required class activities have included reading the text, searching for related information on the Web, solving problems, and presenting solutions via collaborative assignments. I have placed much of the responsibility on the students to actively cooperate with one another via the interactive synchronous and asynchronous technology tools available in HorizonLive and Blackboard technology systems, to reflect on their personal experiences, explore new ideas, manipulate data, and construct solutions for problems and learning activities presented in my e-learning classes. Driscoll (2000) stresses that the importance of "nurturing self-awareness of knowledge construction … that constructivists assert is essential to the acquisition of goals such as reasoning, understanding multiple perspectives, and committing to a particular position for beliefs that can be articulated and defended" (p. 390). I am required to turn in a grade for students to assess their level of performance. In a constructivist class, assessment would be based on how students thought they had progressed compared to what they knew when they first started. During the learning process in my online classes, students would not be graded on the same scale as others. Each student in my online classes would be graded based on his or her own personal progression.

In actual constructivist e-learning practice, instructors typically integrate some constructivist strategies in their electronic teaching. Forming a technology-supported community of learners or "Asynchronous Learning Network (ALN)" is one example of an actual constructivist design. Such a community has common goals, in which members of the same community sustain themselves through dialogue and interaction, actions and products, and have ownership of their own learning. Mayadas (quoted in Doherty, 1998) describes this community:

> In an ALN, we can think of every person on the network as both a user and a resource. This concept is critical to the power of an ALN, making it not just an electronic network but a network of people—an interactive learning community

that is not limited by the constrains of time or place. (p. 5)

Constructivism has contributed greatly to the quality of e-learning. Through computer-mediated communication (CMC) and computer-assisted learning (CAL) tools, successful e-learning mainly emphasizes and allows interactive learning, learner-controlled exploration of ideas and information, teamwork and active collaboration within social contexts to receive constructive feedback and diverse explanations, and articulation to construct and revise existing knowledge (Dalgarno, 2002; Ocker & Yaverbaum, 2001). This e-learning process is consistent with the tenets of constructivism and the work of constructivist scholars, Vygotsky and Piaget, who stressed that learning is a social activity in which learners interact and collaborate with peers and content experts to construct knowledge and arrive at plausible solutions to real-life problems (Bielman, Putney, & Strudler, 2003).

CONSTRUCTIVISM-BASED SYNCHRONOUS AND ASYNCHRONOUS COMMUNICATIONS

Well-designed synchronous computer-mediated communication (CMC) provides a solid ground for building small learning communities, archiving information, and enhancing opportunities for dialogue and social negotiation within small groups of learners in a quality e-learning environment (Chou, 2001). In these synchronous e-learning communities, students need clear guidance for live discussions; immediate and positive feedback; time to become familiar with technology tools; user-friendly, accessible, and effective technology systems; and private and quiet electronic places for discussion (Chou, 2002). This e-learning process promotes learning outcomes and provides authentic and unique learning experiences for students.

In a quality-designed CMC asynchronous e-learning class, most of the communication occurs via bulletin boards, Websites, or e-mail (Lavooy & Newlin, 2003). Instructors in Web-based asynchronous classes play an important role in providing prompt feedback, pertinent educational examples and applications, and helping students refine their ideas and discussions (Hara, Bonk, & Angeli, 2000). These instructors need to evaluate and monitor students' progress, assign and consult with discussion facilitators, approve discourse topics, and group advanced and new students according to their expertise and background (Zhu, 1998). To facilitate quality e-learning using this form of communication, students should feel comfortable and be welcomed, supported, included, and encouraged to participate effectively in group learning activities and active knowledge construction (McDonald & Campbell-Gibson, 1998).

To utilize the optimal features of CMC in synchronous and asynchronous e-learning courses effectively, designers and faculty members need to structure and facilitate learning activities that give students flexible options to reflect critically on their learning and interact collaboratively and productively with peers to construct knowledge and solve practical problems in an authentic environment (Wu, 2003). In an effective interactive e-learning environment, e-learners need to share learning resources and original ideas with fellow students, have assigned roles, be provided with continuous coaching and rewards for participating regularly and effectively in class, and be given clear instructions and guidelines on how to pose related questions and bring into the discussion relevant issues and learning problems (Wu, 2003).

While synchronous and asynchronous communications have the potential to enhance the quality of e-learning, students, faculty, and staff should be aware of the limitations of these forms of interactiv-

ity. For instance, students participating in Web-based synchronous classes should possess strong reading, typing, and writing skills and be prepared to face frustrating time delay during live class discussions, whereas long threaded discussions in asynchronous courses may confuse and prevent e-learners from participating fully and effectively in collaborative and group activities (Wu, 2003). The applications of quality-designed synchronous and asynchronous communications play major roles in attaining specific learning objectives in a quality e-learning environment (Lavooy & Newlin, 2003). If these communication systems are designed, constructed, and used effectively in e-learning courses, students would reap educational benefits and valuable technological skills.

CONCLUSION

Constructivism is a plausible theory for e-learning. This learning theory meets the demands of the principles of quality e-learning. If instructional materials and course delivery systems are designed and developed well, this theory would provide the necessary theoretical support to implement quality e-learning courses and programs.

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Good (Best) Practices for Electronically Offered Degree and Certificate Programs
A 10-Year Retrospect

Scott L. Howell and Katherine Baker

Who would have ever imagined the effect of one set of distance education principles developed 10 years ago (1995)? At a time in the history of distance- and e-learning, when many associations, organizations, and institutions set about to define themselves and those standards by which their constituents would be held accountable for quality practices, one set of standards has emerged preeminent: the work of the Western Cooperative of Educational Telecommunications known as *Best Practices for Electronically Offered Degree and Certificate Programs*. Even though the original 17 principles enumerated in 1995 have evolved to 27 in 2005, all institutions of higher education and all regional accrediting commissions in the United States now endorse these principles. This article celebrates the 10-year history of these principles by providing the reader a glimpse of their beginnings, changes, and eventual widespread adoption. Four documents that span this story

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and evolution and use by regional accrediting commissions are briefly introduced: *Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs* (1995)*, Guidelines for Distance Education* (1997), *Statement of Commitment by the Regional Accrediting Commissions for the Evaluation of Electronically Offered Degree and Certificate Programs* (2001), and the *Best Practices for Electronically Offered Degree and Certificate Programs* (2001).

Ten years ago (June 1995), the Western Interstate Commission on Higher Education (WICHE) and its program, Western Cooperative for Educational Telecommunications (WCET), published the *Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs* (known hereafter as *Good Practices*). While other distance- and e-learning guidelines, principles, and standards were published during this same 10-year period by national and regional organizations, none of them influenced more programs and exhibited more staying power nationwide than the *Good Practices* developed by WICHE/WCET, an educational compact of 15 western states. Other standards released during this time are less known and used, even though they were drafted by larger or more prominent organizations. Some of those other standards that emerged during this period include *Distance Learning Evaluation Guide,* prepared by the American Council on Education (1996); *Distance Graduate Education: Opportunities and Challenges for the 21st Century,* developed by the Council of Graduate Schools (1998); *Quality on the Line: Benchmarks for Success in Internet-based Distance Education,* established by the Institute for Higher Education Policy (2000); and *Distance Education: Guidelines for Good Practice*, put forth by the American Federation of Teachers (2000).

This article seeks to recognize the significant role that these *Good Practices*—now known as *Best Practices*—have had in defining and guiding distance- and e-learning over this critical 10-year period. This acknowledgment, for those unfamiliar with its origins, may best be made by briefly reviewing the history and evolution of the original 17 principles that comprised the *Good Practices*, and documenting their current place among the regional accreditation commissions that approve new and reaffirm previous accreditation for institutions.

HISTORICAL CONTEXT

On March 5, 1993, Sally M. Johnstone, director of the Western Cooperative for Education Telecommunications, submitted an award-winning application for $271,420 to the U.S. Department of Education and its Fund for the Improvement of Postsecondary Education (FIPSE) for the purpose of establishing and promoting distance- and e-learning standards and eliminating state barriers. The overarching purpose for FIPSE's existence, and hence its selection of this application, was to "support innovative reform projects that hold promise as models for the resolution of important issues and problems in postsecondary education" (U.S. Department of Education, 2005, ¶1). At the time, any effort made to standardize principles and streamline differing state policies associated with distance- and e-learning was as needed as it was innovative; it would also require significant innovation to secure consensus across such diverse stakeholders.

Johnstone and WCET had clearly identified a problem of not only regional (15 western states) but also national significance. The original application reported that "there are no standards for electronically-delivered education programs, so states now have no consistent way of monitoring their quality or providing consumer

protection for their citizens" (Johnstone, 1993, p. i). The application also documented the challenges that distance- and e-learning had already introduced in the early 1990s to students and institutions alike as technology-mediated learning enabled and promoted the crossing of traditional state boundaries, each state with its own unique policies and practices—hence, the title and subtitle of the application: "BALANCING QUALITY AND ACCESS: Reducing State Policy Barriers to Electronically-Delivered Higher Education Programs."

The start date of the FIPSE grant was listed as October 1, 1993, and the end date as September 30, 1996. Johnstone reported to FIPSE in a required annual report dated May 25, 1995—over halfway through the 3-year project period—that near the end of 1994 the team had "obtained additional comments on the proposed list of standards (now called "principles of good practice") for electronically offered post-secondary degree programs; identified other groups and individuals whose input on the standards should be sought; … [and] developed an important working relationship with the higher education regional accrediting associations" (Johnstone, 1995, pp. 1-2).

Later on in the report and closer to the actual filing date (May 1995), an entry noted WCET's careful use of its advisory committee in vetting the document until all stakeholders were satisfied. The authors of this article italicized two words, "*went again,*" in the following quote from the FIPSE report to emphasize the important and painstaking consensus-building process used by WCET on the *Good Practices* document:

> May, 1995—At last! Again, after receiving additional comments from around the West, staff made changes that seemed relevant, and the "almost final" draft *went again* to the advisory committee. A May 10 call with the advisory committee resulted in what we are ready to call a

"final draft." Interestingly, this latest version includes a return to our original notion of "Principles of Good Practice," instead of the "Characteristics …" we had been using for the past six months (Johnstone, 1995, p. 4, italics added).

While it is not the intent of this article to explicate the reasons these guidelines persisted and others did not, the careful selection of the project's 13-member advisory committee—a veritable list of Who's Who in Higher Education—and the patient process of vetting ("*went again*") the principles as many times as needed must have contributed to the widespread adoption of the principles.

In a subsequent section within the annual report titled "What have we learned?", the WCET staff recorded a sense that the results of their regional project in establishing distance education standards may have greater impact sooner than they had anticipated:

> We are beginning to recognize more fully the possible policy ramifications of this project. There are a number of indications that the "Principles of Good Practice …" may become the basis for national agreement on the "standards" for programs offered electronically. It now seems likely that the project will eventually provide—in most cases, for the first time—a tool to assess the quality of electronically-offered programs…. Up to now, there has been nothing to guide the review of electronically-offered programs from any relevant perspective. That is, neither the state agency responsible for regulations, the accrediting community, institutions interested in developing programs for electronic delivery, nor, most importantly, students interested in pursuing educational goals via telecommunications.… Our work on the project thus far has made clear how much this needed guidance might be provided through the appropriate dissemination, endorsement, and implementation of the "Principles of Good Practice." (Johnstone, 1995, p. 5)

The "Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs"

The 17 principles identified in *Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs* (hereafter *Good Practices*) were officially adopted by WCET on June 6, 1995. The *Good Practices* document itself included a preamble, a statement of five guiding assumptions used by the WCET team in developing the principles, and then the 17 principles themselves.

All 17 principles were distributed over three main sections, with the number of principles associated with each section set off by the em dash: (1) Curriculum and Instruction—4 principles; (2) Institutional Context and Commitment—11 principles; and (3) Evaluation and Assessment—2 principles.

The first section (4 principles), "Curriculum and Instruction," addresses learning outcomes, clarity and completeness of programs, appropriate interaction between faculty and students, and faculty oversight of programs.

The section "Institutional Context and Commitment," with its 11 principles, was further subdivided into five categories, with the number of principles associated with each category also set off by the em dash: (1) Role and Mission—2 principles, (2) Faculty Support—2 principles, (3) Resources for Learning—1 principle, (4) Students and Student Services—4 principles, and (5) Commitment to Support—2 principles. "Role and Mission" ensures that technology is appropriately used to meet program objectives and that programs are consistent with the institution's role and mission; "Faculty Support" focuses on training and services for faculty who use technology to teach; "Resources of Learning" sees that learning resources are made available to students; "Students and Student Services" concentrates on students'

access to information and services, students' background with technology, and the accuracy of admissions materials; and "Commitment to Support" focuses on the evaluation of faculty as related to electronically offered programs and also examines the continuation of programs until such time students can complete their degree.

The third section (2 principles), "Evaluation and Assessment," attends to the evaluation of programs' educational effectiveness and assessment of student achievement.

Guidelines for Distance Education

Two years later (1997), WCET and the Council of Regional Accrediting Commissions (C-RAC), comprised of the executive directors for all regional commissions, further adapted and developed a new standards document known as the *Guidelines for Distance Education* (hereafter *Guidelines*), the principles enumerated in *Good Practices*. These *Guidelines,* built on and adapted from the *Good Practices* so soon after their creation, reflect the scrutiny and interest regional accreditors were giving to distance education programs that had begun to proliferate at traditional and for-profit educational institutions.

The *Guidelines* document is comprised of 19 principles—two more than *Good Practices*—divided over five sections and three more than *Good Practices*: (1) Curriculum and Instruction, (2) Evaluation and Assessment, (3) Library and Learning Resources, (4) Student Services, and (5) Facilities and Finance. Further analysis of the 19 principles reveals that 12—with some adaptation—are carried over from the original *Good Practices*.

Two new principles were listed under "Curriculum and Instruction": currency of curricular materials and programs and also the clarity of distance education policies regarding material ownership, faculty compensation, copyright, and so forth.

"Evaluation and Assessment" included a new principle about ensuring the integrity of student work and the credibility of degrees. *Guidelines* also included two additional principles in the "Learning Resource" section: students' appropriate access to learning resources made available by institutions, such as laboratories and equipment, and the institution's monitoring of the same. The new section, "Facilities and Finance," was comprised of two principles: the institution's ability to make the program financially viable and effective and its possession of sufficient technical expertise to support and perpetuate the program.

BEST PRACTICES FOR ELECTRONICALLY OFFERED DEGREE AND CERTIFICATE PROGRAMS

In a personal communication with Johnstone on June 7, 2005, she reported that in 1999, the Council of Regional Accrediting Commissions (C-RAC) "asked WCET staff to amend the original [*Good Practices*] to create one that would be acceptable to all the regional accrediting associations. The Executive Directors of the regional accrediting associations wrote an introductory document and adopted the revised Principle(s) of Good Practice." Marianne Phelps, senior consultant for WCET, referred to this collaboration in a personal communication on June 27, 2005, as the "second phase" of what C-RAC and WCET had begun with the *Guidelines* some 3 years earlier. She also observed that "the part of the Interregional Guidelines that commits each of the regionals to using the same DE guidelines was really ground breaking. It was the first time they all agreed to approach assessing anything the same way." The result was two documents, both adopted by the regional accrediting commissions in March 2001: *Statement of Commitment by the Regional Accrediting Commissions for the Evaluation of Electronically Offered Degree and Certificate Programs*

(hereafter *Statement*) and the *Best Practices for Electronically Offered Degree and Certificate Programs* (hereafter *Best Practices*).

The *Statement* expresses "the approach of the regional commissions to … emergent forms of learning" (Committee of Regional Accrediting Commissions, 2001, p. 1). The conclusion of the *Statement* explains the development of the *Best Practices*. It reads,

> As the higher education community increasingly expands educational opportunities through electronically offered programming, the regional commissions are committed to supporting good practice in distance education among affiliated colleges and universities. Doing so is in keeping with their mission to encourage institutional improvement toward a goal of excellence. To this end several years ago, each commission adopted and implemented a common statement of *Principles of Good Practice in Electronically Offered Academic Degree and Certificate Programs* developed by the Western Cooperative for Educational Telecommunications (WCET), resulting in a shared approach to distance education. More recently, desiring to complement these efforts, the regional commissions collectively, through C-RAC, contracted with WCET to fashion a more detailed elucidation of those elements which exemplify quality in distance education. Based upon the expertise of WCET and the already substantial experience of the regional commissions in assessing distance education, the resulting statement, *Best Practices for Electronically Offered Degree and Certificate Programs*, provides a comprehensive and demanding expression of what is considered current best practice. It is being utilized by each commission, compatibly with their policies and procedures to promote good practice in distance education among their affiliated colleges and universities. (Committee of Regional Accrediting Commissions, 2001, p. 5)

The *Best Practices* has five sections: (1) Institutional Context and Commit-

ment, (2) Curriculum and Instruction, (3) Faculty Support, (4) Student Support, and (5) Evaluation and Assessment. There are now 27 principles—10 more than *Good Practices* and eight more than *Guidelines*—and each principle in the *Best Practices* is supported by operational questions to facilitate more widespread standardization and implementation. Upon comparing and contrasting the *Best Practices* to the earlier *Good Practices* and *Guidelines* documents, it is evident that many of the principles in the most recent document remain unchanged. While five standards from the *Good Practices* were not included in the *Guidelines*, it appears that at least four of the five principles are included in the *Best Practices*. Although many of the principles within *Best Practices* are derived from those in the previous documents, *Best Practices* does have several new principles. These new principles address issues such as distance education being considered a substantive institutional change, institutional understanding of legal and regulatory requirements, working with consortial partners, strategies of inclusion, security of personal information, and then the overarching idea of distance education evaluation taking place within the context of full institutional evaluation. Outside of these noted additions, all standards identified in *Best Practices* appear to be based on one or both of the *Guidelines* or *Good Practices* documents.

CONCLUSION

These principles developed 10 years ago have now become household terms to institutions of higher learning—as well as others—engaged in distance- and e-learning. All major regional accrediting bodies recognized by the U.S. Department of Education have now adopted and endorsed one version or another of these principles (two of the major regional accrediting bodies at this writing subscribe to *Guidelines*, the remainder to *Best Practices*), and that

version of principles can readily be found on their Web sites. As the *Statement* asserts, "it is being utilized by each commission, compatibly with their policies and procedures to promote good practice in distance education among their affiliated colleges and universities" (Committee of Regional Accrediting Commissions, 2001, p. 3).

The authors submitted a draft of this article to Johnstone to review for accuracy and also for her thoughts about what might be next for the *Best Practices.* Her pithy response outlined her and WCET's two goals in the following personal communication on July 17, 2005: "trying to help institutions understand how to improve their services to students (both on and off campus) using technologies … [and] to get student support services in line with the *Principles of Good Practice*."

While the 10-year anniversary of *Good Practices* may be quietly noted by a few, the influence of this seminal work will be felt by many students and distance-/e-learning educators for years to come. What Johnstone and her team said 10 years ago in their update to FIPSE is just as timely today: "We are beginning to recognize more fully the possible policy ramifications of this project" (Johnstone, 1995, p. 5). Happy 10th Birthday, *Good and Best Practices;* may all (y)our wishes come true!

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World's Youth Connect Through Global Nomads Group and Polycom

Four Americans in Paris Hatch a Plan That Makes the World a Much Smaller Place

David Macquart

I have seen evidence of what one series can do in the lives of teenagers who believe nothing can change them. I have seen, firsthand, the results of what such an experience can do. One of our students, Paul, announced in an interview with a local newspaper that "this was the most important thing I have ever done."

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It can change ideologies and foster open communication across cultures, languages and borders. Through youth-centered videoconferencing endeavors like Rwanda Alive, we can do away with negative cultural bias, dispel myths about The Other, and leave the world a much better place than we found it. (Robin Gibbs, Teacher, Galloway School)

Global Nomads Group (GNG) is a nonprofit organization founded in 1998 dedicated to heightening children's understanding and appreciation for the world and its people. Using videoconferencing technology provided by Polycom, Inc., we bring young people together to meet across cultural and national boundaries to discuss their differences and similarities, and the world issues that affect them.

Never before has the world been so interconnected. Cultural exchange and exposure at an early age is, and will be, crucial to enabling young people to live and compete in such an increasingly "globalized" world. However, as recent reports have shown, young Americans, in particular, lack basic knowledge of foreign countries, cultures, and international matters.

GNG aims to be a part of the solution by offering programs that deepen young peoples' understanding of foreign cultures, and spark their interest in the world and its people. GNG programs offer students a tangible taste of foreign places that they might never have the opportunity to visit on their own, bringing them that much closer to becoming informed and culturally-aware citizens of the world.

HOW IT STARTED

We met for the first time as college students at the American University of Paris in the mid-'90s. At this time, we had no way of knowing the impact our budding friendships would have on our future professional lives.

We were a group of young, ambitious, and idealistic students gravitating toward one another because of shared experience of traveling the globe at relatively young ages. During our time in Paris, we were all becoming cognizant of the changing state of the world, culturally, politically, and from a business perspective. Global markets were expanding in unprecedented ways, meaning that before long a truly international skill set would be required to compete effectively in the global work force. And, with technology shrinking the world seemingly every day, tolerance and respect for all cultures was growing ever more important.

Jonathan Giesen, Mark von Sponek, Chris Plutte, and I were extremely fortunate to have the opportunity to travel the world and learn about other cultures and

GNG program on HIV/AIDS prevention linking American students with their Brazilian counterparts.

David Macquart (right) with Brazilian participants during CURRENTS, a program exploring HIV/AIDS around the world.

ways of life. We felt we'd been given a tremendous gift that provided us with an international mindset to help us succeed in an increasingly global economy and relate with people who were different from us.

At this point, we knew that the opportunity to travel was not available to many young American students, so we set out to find a way to impart the benefits of travel without racking up frequent flyer miles.

TURNING VISION INTO REALITY

We truly believe that traveling the world provides the kind of perspective no student can ever learn from a book, and we think this perspective is especially critical for students in the United Sates. Because the United States is such a large, isolated landmass, and because many parts of our country are so homogeneous, kids need to gain an understanding and respect for the different ways of thinking and doing things that exist throughout the world. That's why we founded Global Nomads Group.

The GNG mission has been the same from the beginning: connect youth throughout the world virtually to open up dialogue and cultural exchange, but the medium for doing so wasn't always clear. We thought we would base our model on Internet technology, but the quality just wasn't there. That's when we met a reseller of videoconferencing equipment who introduced us to the technology.

Using Polycom video conferencing solutions, we moderate conferences between K-12 classes in different countries, organize

Christopher Plutte filming in a Sudanese refugee camp in Chad.

virtual lectures, and conduct remote broadcasts from the world's historical and cultural sites.

Not only does videoconferencing provide the high-quality voice and video the Internet can't, the technology doesn't inhibit the process. Participants don't have to worry about the technology; they can interact naturally and concentrate on what they're getting out of the program.

BUILDING A PROGRAM

The first educational program GNG put together is a testament to the organization's indomitable spirit. With no money for the project, we seized an opportunity to partner with a doctor who was going to Honduras on a telemedicine assignment. In return for the cost of two round-trip tickets to Honduras and access to a video conferencing system, we, the GNG team,

took video footage for the doctor of his work in Honduras and facilitated a video telemedicine conference 10 days later between the doctor, who had returned to the United States, and the patients he'd seen in Honduras for postoperative follow-up. This gave GNG the video equipment to use for educational programming for 10 days.

Our first project was a resounding success, broadcasting the first-ever video conference from the Mayan ruins of Copan.

Following this, we were invited by Prince Hassan bin Talal of Jordan to visit the country and produce programs. For this project, GNG was able to secure the loan of a video system from another video-conferencing reseller, which it used to broadcast from the Dead Sea and the UNESCO World Heritage Site of Petra. Upon returning to the United States, we were greeted with good news: our reseller

David Macquart among young Brazilians during a live broadcast from a community center in Salvador, Brazil.

contact was now employed by the largest manufacturer of videoconferencing technologies, and the video equipment was donated to the group.

GNG has connected thousands of youths in more than 25 countries and hundreds of thousands more through the Webcasts it offers with every cultural exchange. But perhaps the most powerful project we have ever orchestrated was "Project Voice," which connected U.S. students with students in Baghdad both before the war and following the overthrow of Saddam Hussein's regime.

"Project Voice" was unique in that it allowed U.S. and Iraqi teenagers the chance to talk before and after the U.S invasion. During the later conversation, the Iraqi students were able to be much more candid with their responses because they weren't under the rule of a dictator, and there was a lot of empathy on the part of the U.S. students.

MAKING THE CONNECTIONS HAPPEN

GNG uses the ViewSation® FX and VSX 7000 videoconferencing systems donated by Polycom to facilitate its cross-cultural exchanges. When we are operating outside of the United Sates, we use ISDN, IP, or satellites to broadcast; domestically, it uses ISDN or IP connections depending on availability.

GNG uses the embedded multipoint capability of the FX to connect multiple sites during a video call without having to

pay a service provider. An example is *The Pulse*, a new program hosted by von Sponeck that connects high schools for current events discussions. The latest discussion centered on Michael Douglas's experience in Sierra Leone and the integration of child soldiers back into society. Past *Pulse* programs also include the time von Sponeck spent in Baghdad before and after the Saddam regime, and included two U.S. high schools.

When GNG puts an educational videoconference program together that involves locations outside of the United States, we work closely with the United Nations Development Program (UNDP) to check out the existing infrastructure of the country and arrange the conference. The UNDP helps determines what type of communications infrastructure and video equipment exists, and helps identify the most appropriate schools and classes for participation. If there is no video conferencing equipment available in a country, we simply take the Polycom video systems with us.

EXPANDING GLOBAL COLLABORATION

Our vision is for Global Nomads programming to be less of a special event and more of an everyday part of the learning process, and we're confident we can achieve that goal on the strength of our programs and with the help of generous supporters like Polycom.

What started as a small endeavor operating on a shoestring budget has grown into a respected nonprofit powerhouse funded by some of the most highly regarded foundations in the United States.

In the fall of 2005, Global Nomads launched the CURRENTS program, visiting nine countries in 100 days. The CURRENTS program was an international education program uniting American youth with their peers around the world via videoconferencing and the Internet to discuss the most pressing global issues of our time, and work together to help solve them. In the fall of 2005, the topic focused on the HIV/AIDS epidemic as it is unfolding in countries around the world. This 3-month journey across the planet visited La Guaira, Venezuela; Salvador, Brazil; Cape Town, South Africa; Mombasa, Kenya; Chennai, India; Yangon, Myanmar (Burma); Ho Chi Minh City, Vietnam; Hong Kong, China; and Kobe, Japan. The CURRENTS program wrapped up on December 1, 2005, World AIDS Day.

"THE CURRENTS PROGRAM WAS AN INTERNATIONAL PROGRAM UNITING AMERICAN YOUTH WITH THEIR PEERS AROUND THE WORLD VIA VIDEOCONFERENCING."

Forensic Science Education for the Civil and Criminal Justice Communities

Susan G. Zucker

Effective planning and development of distance learning programs are discussed in this article. The focus is on differences between distance education and Web-based learning, factors to consider when planning distance education, course management system (CMS) features, deciding whether to use synchronous or asynchronous teaching tools, partnering with other institutions, and integrating multiple learning formats into distance education. This information is applicable to distance learning initiatives in other organizations.

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DIFFERENCES BETWEEN DISTANCE EDUCATION AND WEB-BASED LEARNING

The main difference between distance education and Web-based learning is that distance education is achieved through many forms and actually *includes* Web-based learning. One is a subset of the other.

DEFINING DISTANCE EDUCATION

There are many ways to define distance education, but it always involves a separation of teacher and learner and the use of technology. In its most broad definition, distance education implies any learning that does not take place in-person and does not necessarily include sharing ideas between teacher and learner.

However, the definition used by the United States Distance Learning Association (USDLA, 2005) to define distance learning guided the author of this article. The definition is: "The acquisition of knowledge and skills through mediated

information and instruction, encompassing all technologies and other forms of learning at a distance." The key word here is "mediated," which means that ideas between teachers and learners are exchanged and that learners are guided through material.

The technology used in distance education commonly involves two-way interactive telecommunications systems and communication that is synchronous, but most often asynchronous. Distance education actually combines both modalities. To achieve distance education, teachers and learners are connected via systems making instruction possible via video, data, and voice instruction in both synchronous and asynchronous formats. Examples include: course management software (CMS) such as Blackboard and WebCT; live e-learning and collaboration software such as Horizon Live, Elluminate, and Merlin; and Web-based presentation software such as Cast:Stream, Mediasite Live RL, WebEx, and Microsoft Producer. Other distance learning technologies include: CD-ROMs, DVDs, video and teleconferencing, audio and video tapes, live Web streaming, Web-based archived presentations, and Websites designed specifically for the delivery of distance education.

DEFINING WEB-BASED EDUCATION (WBE)

Also known as Web-based instruction (WBI), Khan's (1997) definition is "a hyper-media-based instructional program which utilizes the attributes and resources of the World Wide Web to create a meaningful learning environment where learning is fostered and supported" (p. 6). Relan and Gillani (1997) define WBI as: "the application of a repertoire of cognitively oriented instructional strategies … utilizing the attributes and resources of the World Wide Web" (p. 43). The common theme of these definitions is that WBI takes advantage of

the Internet and World Wide Web to deliver instructional information.

Note that the World Wide Web (Web) and the Internet are not the same. The Web is a graphical user interface (GUI) that sits on top of the Internet. The Internet is the infrastructure that enables communication between servers and computers worldwide.

FACTORS TO CONSIDER WHEN PLANNING DISTANCE EDUCATION

There are many aspects to consider when planning a distance education program, including: (1) identifying the needs of the target audience including their familiarity with technology, (2) the accessibility of various technologies such as videoconferencing or Web-based classes via a CMS, (3) the need for testing, progress tracking, and continuing education, (4) topics considered necessary and important, (5) cost of developing distance learning programs, (6) quality control, (7) accreditation, (8) marketing the program, and (9) hiring technology personnel who will implement the program.

COURSE MANAGEMENT SYSTEM (CMS) FEATURES

There are many features of a CMS that allow instructors to plan and manage their courses and allow students to track their progress using an easy interface that requires no knowledge of HTML. There are a couple ways for teachers and students to interact: synchronous chatting is one; asynchronous usage of the internal e-mail system and threaded discussions capabilities is another.

CMS features are designed for instructor-led learning. A virtual learning environment is created that is equivalent to taking semester long classes given at the typical college or university. As such, most of the tools are geared toward assisting in

the delivery and administration of a formal learning experience.

DECIDING WHETHER TO USE SYNCHRONOUS OR ASYNCHRONOUS TEACHING TOOLS

Determining the format to which your target audience will be most responsive depends on various factors including but not limited to: hardware capabilities, time constraints, technical expertise, and continuing education requirements. Synchronous communication requires much more advanced planning than asynchronous communication because everyone has to be online together. Synchronous communications are made more difficult with slower access to the Internet, by time constraints, and limited technical and keyboarding expertise. Some continuing education requirements require that there be some form of "live" interaction to earn continuing education units (CEUs).

PARTNERING WITH OTHER INSTITUTIONS

Institutions most commonly host their own operations within content management systems (CMS) such as Blackboard or WebCT or have the CMS managed for them for a fee by the representative companies. There are instances in which two or more institutions will cosponsor a degree or certificate program and one institution may pay the other a fee to offset the cost of hosting the online program.

For example, law schools can take advantage of having their online Blackboard and TWEN courses hosted at no cost through their affiliations with comprehensive online database providers Lexis Nexis and Westlaw. Lexis Nexis features online hosting of Blackboard courses; Westlaw features online hosting of TWEN courses.

INTEGRATING MULTIPLE LEARNING FORMATS INTO A DISTANCE EDUCATION PROGRAM

Media such as CD-ROM, DVD-ROM, audio and video tapes, print media, live and archived Webcasts, programs offered via video-on-demand, and presentations made via tele- and videoconferencing are often used in combination to deliver instruction. Mixing various event-based activities including face-to-face classrooms, live e-learning, and self-paced learning constitutes models of distance learning. Synchronous and asynchronous methods in combination often produce a textured, varied, and effective approach. Distance education takes many forms, and combining different formats often meets learners' needs best.

Using more than one delivery method in a single course, combining online and face-to-face approaches, and/or mixing various event-based activities, including face-to-face classrooms, live e-learning, and self-paced learning is called blended learning. Blended learning is categorized into three models: (1) skill-driven learning, which combines self-paced learning with instructor or facilitator support to develop specific knowledge and skills; (2) attitude-driven learning, which mixes various events and delivery media to develop specific behaviors; and (3) competency-driven learning, which blends performance support tools with knowledge management resources and mentoring to develop workplace competencies. A more dynamic learning environment that allows different options and expressions of educational materials is created when different media are combined (Distance Education Clearinghouse, 2005; Valiathan, 2002).

Learners seeking a degree or a certificate may take entire instructor-led courses managed and maintained online through a CMS with minimal in-person contact. Progress is tracked through a digital gradebook, and permanent digital records are

kept. Learners seeking information unrelated to a degree or a certificate use the same media and the same methods, such as blended learning, as those who are involved with a formal program usually with the exception of courses offered via a CMS. It is imperative that those planning distance education programs understand their target populations' capabilities and needs to achieve maximum effectiveness.

A Case Study … NCSTL Gets Started

The National Clearinghouse for Science, Technology and the Law (NCSTL) at Stetson University College of Law is currently developing a distance forensic science education program for the civil and criminal justice communities. To determine learner preferences in receiving information and to inform the most effective ways of delivering instruction, a survey was designed and distributed to the relevant constituency comprised of lawyers, judges, law enforcement, scientists, engineers, teachers, and others.

The Survey

The questionnaire was designed to determine the hardware capabilities of the target audience, the accessibility of time and interest to the target audience, their comfort level with technology, and their preferences with respect to online learning. Adult and distance learning theories were supported by those responding with regard to preferences in receiving information. These preferences are summarized: in-person, Web-delivered, DVDs, and other asynchronous media. The responses will assist NCSTL in making most of the initial determinations for the Web-based learning program.

Respondent Data

This group of diverse learners prefer in-person learning environments as most adults do because they provide social and networking opportunities. However, other learning options are considered valuable due to their portability, convenience, and time- and cost-effectiveness. These other options include both synchronous and asynchronous learning environments and use of the media listed on the first page in the section "Defining Distance Education."

Analysis of the Data

The research indicates that a vast majority of respondents have the hardware needed to participate in an online program at home or at work. While a majority of respondents have a DVD drive in their computers, a sizeable minority (41%) do not.

Approximately one third have dial-up access at home rather than fast access to the Internet (cable, DSL, ISDN, T-1). This means that there is a group of people who cannot take full advantage of Internet materials from home; such as, video and live Web-streams require more bandwidth than text and pictures. Most people, however, use a computer at work and have high-speed access there.

Eighty-nine percent regularly do work-related research on the Internet and 74% have used specific work-related research environments such as searchable databases. Fifty-nine percent indicated that they have never participated in online training or courses but had participated in Web-conferences and/or videoconferences. Of the 59% who stated that they had never participated in an online training session or course, 25% had participated in a web conference and 41% had participated in a videoconference.

Of the 41% who had participated in online training or courses, 52% used a learning platform such as WebCT or Black-Board. The majority of respondents indicated that they would like to use audio, video, printed materials and CD-ROMs; 88% expressed a preference for CD-ROMs.

Half preferred reviewing materials on their own, and 31% had no preference. Interestingly, though respondents indicated that they had had some experience with synchronous training sessions, many indicated unfamiliarity with asynchronous learning materials.

Most respondents indicated a preference in accessing live online training sessions "during the day on weekdays" or no preference. Over half (57%) stated that they would access prerecorded courses during the day. This indicates that online Web materials such as video, audio, and graphics that require fast Internet service could be produced and be accessed during the day.

Regarding the amount of interactivity desired in an online course, 68% indicated that they would like to communicate with others taking the same class. Of those who preferred to work on the materials on their own, 66% still indicated that they want interaction with others who are working on the same content and 56% of those who had no preference in whether they worked on material alone or were instructor led indicated that they wanted interaction with those taking the same class.

RECOMMENDATIONS

Findings and issues raised in this article are recommendations that will be helpful to other organizations. They include: (1) Commence by providing learners with asynchronous self-directed learning materials; (2) Introduce materials that can be provided both asynchronously and synchronously in a Web-based environment as the program matures; (3) Offer live lectures (delivered over the Internet) and perhaps instructor-led courses in the future; (4) Use easy-to-use training materials in conjunction with asynchronous delivery because many are unfamiliar with asynchronous learning. Specifically, the first materials should be distributed on CD-ROMs rather than DVDs until DVD technology is more widely used.

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The Value of Technology Tools in Team Projects

Ryan Watkins

Learning activities that make use of small groups and teams are now common in many e-learning courses and environments. From college courses on science or engineering to training programs on computer security or leadership, many instructors value the dynamic roles that cooperative groups can add to student learning. By engaging learners in case studies, team exercises,

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role playing, or other group activities both online and face-to-face, courses can diversify and expand the learning experience.

Instructors are, however, often hesitant to capitalize on the communication technologies that learners are using in their everyday lives, technologies such as cell phones, instant messages, the Internet, and Blackberry devices, to enhance the group experience. Although these technologies have dramatically changed how learners communicate with one another outside the classroom, most courses continue to rely only on conventional class sessions and small group meetings for the interaction of cooperative learning teams.

By integrating a variety of technologies (e.g., e-mail, shared calendars, chat rooms) into the group activities and assignments of both online and face-to-face courses, instructors can guide learners in the effective use of technology for enhancing team learning. The introduction of these technologies can also provide learners with many valuable skills they can apply in work environments where cooperative teams are often utilized.

Below are eight examples of how technologies can be integrated into group assignments and activities:

1. Instant messages to discuss project tasks and timelines;
2. E-mail attachments for sharing draft project documents;
3. Shared online calendars for setting project timelines;
4. Track-changes feature in Microsoft Word to gather feedback from group members;
5. Chat rooms in Blackboard or WebCT to have "real-time" discussions with group members;
6. YahooGroups to maintain shared files and communications within a small group;
7. Cell phones to have conference calls with multiple team members; or
8. Desktop video-conferences to communicate with off-campus learners.

Commonly, the results of introducing e-learning technologies to the small group and team activities and assignments within a course is the natural transition of the learners away from a reliance on face-to-face meetings to the more flexible use of technology to support the development of team projects. Making use of the technologies that they regularly use outside of the classroom, learners will often value the opportunity to apply technology to their efforts in college courses or training programs. From e-mailing team members about project guidelines to using Yahoo-Groups to maintain shared files within a small group, the applications of technology to cooperative group projects is almost limitless; and with effective guidance, learners can build the necessary interpersonal and technical skills to effectively use these technologies to support their learning.

For instance, learners can improve their online communication skill when submitting to a chat room or discussion board (or sending a e-mail, instant message, or text message) by applying the following guidelines:

- Review every message you intend to send out before hitting the "submit" or "send" button.
- Don't try to be clever with your language; your goal should be clear and concise communications.
- Use spelling and grammar checkers available in most software applications. If necessary, cut-and-paste the message into your word processing program to make use of its spelling and grammar checker before sending the message.
- Important information should be near the top of the message, not somewhere down in the fifth or sixth paragraph.
- Review the To:, Cc:, and Bcc: list of recipients before sending an e-mail.
- Within the text of the message, ask the recipient questions to verify that they are clear about the content of your message (for example, "does that make sense to you?", "are you ok with those plans?", "does that work for you?," etc.).
- Never include in an online communication anything you wouldn't write on a postcard.
- Respect the copyright on materials that you reproduce (including items you find online).
- If you are forwarding or re-posting a message, do not change the wording of the original sender.
- Culture, slang, jargon, humor, idioms, and especially sarcasm are rarely effective communication strategies in online conversations (based on Watkins & Corry, 2005).

In addition, when learners receive an e-mail, instant message, or text message (or when reading a chat room or discussion board posting) the following recommendations can be of value:

- Don't read too much into e-mails or chat discussions with other learners, or take comments too personally.
- Read the entire e-mail (not just the first few lines of each paragraph)

- Review the message more than once to ensure that you did not accidentally skip over any important information.
- Review any attached files or enclosed previous e-mails to provide the context for the message.
- If a message is upsetting, do not respond to it for at least an hour or two. Take some time to cool down and collect your thoughts.
- Ask any questions you may have about the content of the message. Cut-and-paste specific quotes from the message into your questions if there may be confusion on precise words or sentences.
- Repeat back to the sender to essentials details of the message to clarify your understanding (based on Watkins & Corry, 2005).

In creating course activities and assignments, it is therefore valuable to include elements that guide learners toward the development of useful interpersonal and technical skills for using technology to support their team efforts. From activities that identify group member roles and exercises for assigning tasks, to guidelines for sharing draft files and tips for online etiquette, through the team activities and assignments included in the course, you can promote the application of technology through all phases of team development (i.e., forming, norming, storming, performing). In addition to assist learners with developing effective group dynamics, the integration of e-learning technologies into small group activities can also help learners stay organized, share files, manage their time, communicate with group mem-

bers, document group processes, submit team products, and create comprehensive online portfolios.

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Note: Any opinion, findings, and conclusion or recommendations expressed in this material are those of the author and do not necessarily reflect the view of the National Science Foundation.

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Invasion of the Body Snatchers

Craig Ullman

The Pod People have arrived, and the changes they bring with them will be as thrilling—and disturbing—as any 'fifties sci-fi movie.

It began, like all frightening changes, in some quiet corner of a lonely room: a tormented technoid, huddled in front of his computer, in a desperate attempt to gain some measure of revenge from a society that ostracized him, mouths seemingly

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inane banter into a cheap microphone. Oh, if only someone could have stopped him! Then he "uploads" the audio file in an insidious special format on the Internet, and the first *Pod Person* was born.

This audio recording costs nothing to make or distribute, yet the Internet—like the warm primordial soup in which life began—is a perfect medium for mass replication. A few other social outcasts became Pod People and began creating their own content—mostly the ravings of madmen, or music they didn't have the rights to.

But how would the public know how to find or hear these otherworldly sounds? If the public never knew how to access the Pod People's messages, even then, we could have stopped it.

That's when the Pod People made their decisive move, and destroyed forever the world we knew: they reached out to *Him*. The Silicon Valley Guru, the man who speaks to millions of acolytes every year at Expos devoted to his worship and the adoration of cult objects that embody his "Insanely Great" spirit. He ordered his mindless followers to buy little devices and

use special software to access the Pod People's messages, and they did.

Seemingly overnight, millions of people all over the planet were listening to the "podcasts." Worse yet, the little devices followed them wherever they went: at home, at school, even in the privacy of their bedrooms. They were never away from the Pod People's messages and, by creating their own podcasts, *they became Pod People too*.

Look around you, my friends, at the innocent youths who walk your school halls: how many of them have become Pod People? Even some of the finest universities have been taken over and are breeding others (e.g., http://engage.doit.wisc.edu/podcasting/teachAndLearn/). Professors around the country are using podcasts to supplement traditional lectures, perhaps even *replace them entirely.* Students now show up for class and are expected to do more than sit there and take notes. If students have already heard the lecture, and now have nothing to do but actually participate in a group discussion—or, God forbid, group activities—there's no telling what kind of forces that will unleash.

Worse yet, once you've recorded the teacher's presentation and sent it out to the Internet, there's no controlling how far and wide it will spread. How then can anyone ascribe any meaning to the term "intellectual property"?

Even K-12 isn't safe, with both students and teachers podcasting away to expand the concept of class time and give the students experience with digital media.

It's too late, my friends. It's all too late. It's the Pod People's world now.
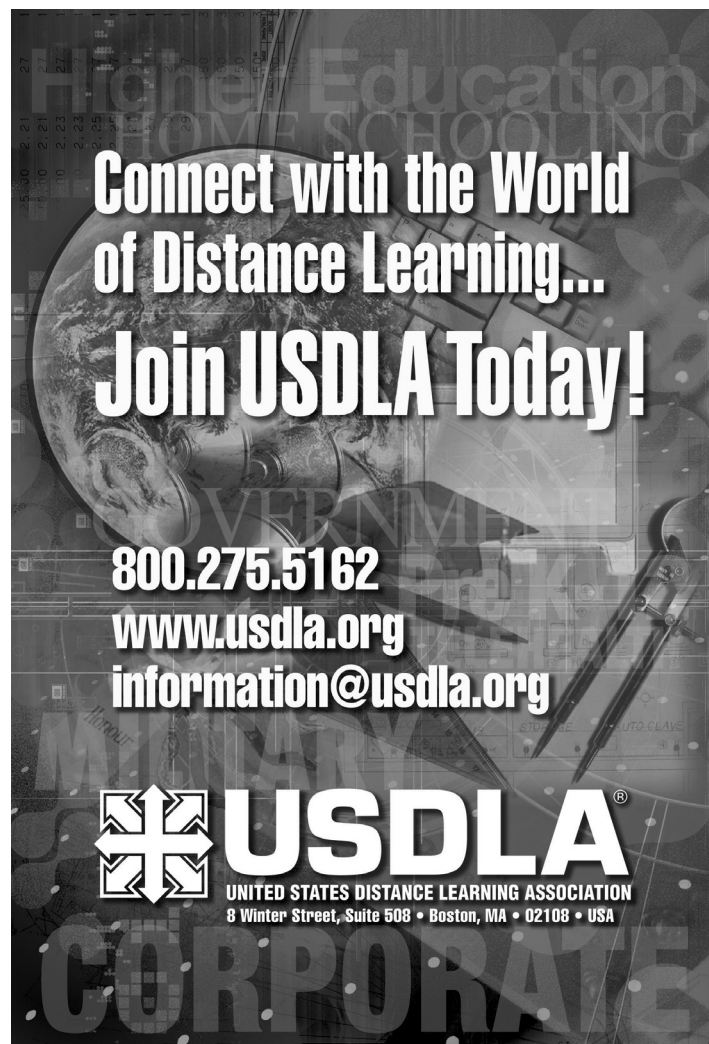

IN UPCOMING ISSUES

Cities have utilities that offer essential services if those services are not offered economically by the private sector. Water, electricity, and trash collection are often city services, or at least city controlled.

Traditionally, access to information has been considered a public necessity, ever since Carnegie libraries were established in almost every town and city. The public library has always been free and open. In the next few years, Internet access will be an essential service. Certainly, there should be debate about whether connecting to the Internet is supplied by a public utility or a private provider, and this debate should begin quickly.

The image of a city, sitting under the canopy of a wireless Internet network, is a vision most want to see; it is the vision of a city with universal access to the power of the Internet at a reasonable cost for everyone.

And finally, when I hear the word canopy I can't help but think of Viet Nam.

Wireless Canopies

Michael Simonson

A canopy is a roof-like covering, and wireless means no wires, so one would assume that a wireless canopy is a roof-like covering with no wires.

Well, most of us know that wireless canopy is used to refer to a "hot zone," or a wireless network area. Thus, a wireless canopy is a location where one can obtain access to the Internet through a high-speed connection using a computer's wireless networking card.
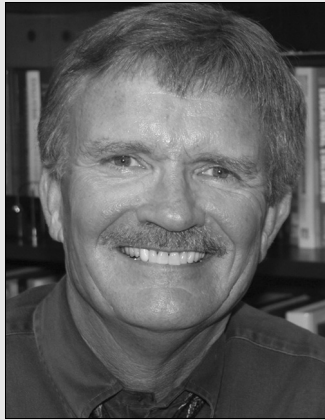
Increasingly, the wireless canopy is becoming used for global, more exten-

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sivenetwork areas, such as a school campus, a neighborhood, or even an entire community. In many towns, there are initiatives to establish—or at least begin planning for—city-wide Internet access, usually wireless access.

These initiatives are reminiscent of the days when community cable television (CCTV) franchises were awarded. In the '60s and '70s, city councils were approached by cable TV companies asking to be awarded a monopolistic franchise to offer cable TV at a reasonable price throughout the city. Franchise agreements were drawn up and signed, and cable TV commissions were established to monitor the activities of the private company that was awarded the cable TV franchise.

Savvy communities obtained one or more local access channels on the cable network, and some even negotiated for state-of-the-art production studios where programming could be created, edited, and delivered. In many cases, unfortunately, the awarding of the CCTV franchise was an opportunity lost. Many cities and towns did not aggressively pursue the potential of a city-wide television network, and today, CCTV is not often perceived as a community resource, but as an entertainment system.

Today, another opportunity is waiting. For many, Internet access is a necessity, and within a few years will be essential for almost everyone. (*… continues on p. 67*)