

An Official Publication of the United States Distance Learning Association

Volume 4 Number 3 2007



DISTANCE LEARNING

... For Educators, Trainers, and Leaders

*In this
issue the
spotlight is on*

**Capella
University**

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PURPOSE

Distance Learning, an official publication of the United States Distance Learning Association (USDLA), is sponsored by the USDLA, by the Fischler School of Education and Human Services at Nova Southeastern University, and by Information Age Publishing. *Distance Learning* is published four times a year for leaders, practitioners, and decision makers in the fields of distance learning, e-learning, telecommunications, and related areas. It is a professional magazine with information for those who provide instruction to all types of learners, of all ages, using telecommunications technologies of all types. Articles are written by practitioners for practitioners with the intent of providing usable information and ideas for readers. Articles are accepted from authors with interesting and important information about the effective practice of distance teaching and learning.

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Distance Learning is for leaders, practitioners, and decision makers in the fields of distance learning, e-learning, telecommunications, and related areas. It is a professional journal with applicable information for those involved in providing instruction of all kinds to learners of all ages using telecommunications technologies. Articles are written by practitioners for practitioners with the intent of providing usable information and ideas. Articles are accepted from authors with interesting and important information about the effective practice of distance teaching and learning. No page costs are charged authors, nor are stipends paid. Two copies of the issue with the author's article will be provided. Reprints will also be available.

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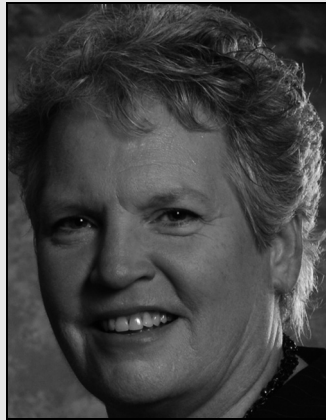
SPOTLIGHT ARTICLE

Capella University's Instructional Design for Online Learning Program Successes in Preparing Future Leaders

Nan Thornton and Sonja Irlbeck

The Instructional Design for Online Learning (IDOL) specialization at Capella University is a dynamic online graduate program that produces graduates who are sought for their skills and expertise. IDOL is a program that is part of an accredited, online university that provides adult learners with high-

quality education in a flexible, online format. What contributes to IDOL's successes with their learners and in the ID field? As is often the case, the whole is greater than the sum of its parts. Capella has created a strong, energetic program by focusing on the elements that contribute to the success of its graduates in the marketplace. This



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article explores some of the factors that experience has shown are foundational to its success.

WHAT IS IDOL AT CAPELLA UNIVERSITY?

Professionals with expertise in instructional design for online learning are in demand and are important to the changing learning environments made possible by the rethinking about learning, the Internet, and other distance learning technologies. Capella University, founded in 1993, offers graduate degree programs in business, education, human services, information technology, and psychology, and bachelor's degree programs in business, information technology, and public safety. The IDOL specialization began in 1997 with a master's degree and was followed in 1999 with the PhD degree. The IDOL specialization now has a decade of fine-tuning its graduate programs, and enrollment in both the MS and PhD programs continues to grow.

WHO ENROLLS IN IDOL?

Learners in IDOL are usually professionals in their fields who are returning to school to gain additional skills and knowledge about instructional design in the online environment with a goal to lead the online education agenda within their organizations. At Capella University, enrollees are called "learners" rather than "students." The term learner more aptly describes the working adult women and men enrolled at Capella and in IDOL. Capella is the only accredited, online institution that provides IDOL degrees at the master's level, and at the current time, only one other institution offers an online PhD in this area.

The master's degree in IDOL prepares professionals working in educational institutions, corporations, the military, health care, and government agencies to achieve a high level of competency in instructional

design in order to advance their careers and serve their organizations. The master's program focuses on the *practice of instructional design* and prepares instructional designers to solve real-world problems by applying theory and best practices. The goal of the IDOL master's degree is to create practitioner-scholars who can implement systems and strategies for analyzing and resolving problems, synthesize theory into application of instructional and performance interventions, implement methods for online delivery, manage projects, and have an understanding of software tools that make the process efficient and effective.

Extending the focus beyond the master's degree, the goal of the IDOL doctoral degree is to create scholar-practitioners who have developed research skills and can apply theory and research strategies to implement instructional and performance solutions, and begin to share knowledge through scholarly research, publications, and presentations. The PhD degree in IDOL prepares professionals to lead and manage instructional challenges in a variety of online settings in various work settings as well. The focus is on the *theory and leadership of instructional design*. PhD learners move beyond the master's level competencies to consider the higher levels of analytical and critical thinking related to research, theory, and leadership in instructional design.

HOW IS IDOL GROWING?

Capella University is committed to academic excellence and has grown to more than 19,000 current learners from all 50 states and 56 countries. Likewise, IDOL continues to grow in enrollment and to attract learners from a diverse population and professional audience. Part of IDOL's growth and success is due to the focus on successful online interactions and building community at PhD colloquia. A strong benefit of the IDOL programs—the fully

online master's degree and primarily online PhD degree—is that they are accessible to learners who otherwise may not be able to attend traditional learning environments for advanced education.

The demand for training and development specialists and instructional designers is growing. The Bureau of Labor Statistics (<http://www.bls.gov/>) projects an increase of nearly 28% in training and development specialists between 2002 and 2012; this contrasts with the overall employment growth rate projection of 15%. Meeting this need for an educated workforce requires preparing professionals in instructional design and development.

An estimated 29% of prospective college students now have experience with online education, and an estimated 1.2 million students are pursuing online higher education, according to Eduventures (<http://www.eduventures.com/>). At current growth rates, by early 2008, 10% of post-secondary students will be enrolled in an online program. Similar growth exists in K-12 and corporate e-learning, creating a need for professionals skilled in designing effective instruction for online delivery. The IDOL program is sought by professionals who are hoping to meet this market need.

LEARNERS: THE HEART AND FUTURE OF INSTRUCTIONAL DESIGN FOR ONLINE LEARNING

Learners in the IDOL program, like Capella learners overall, tend to be motivated, working adults from all walks of life who represent many professional paths. Capella learners are driven to advance their current careers or change careers. They often hold influential decision-making roles and work in a variety of settings, including corporate training, higher education, K-12 education, health care, government, military, and nonprofit organizations.

IDOL's successful learners are a reflection of the program's effectiveness. Structural elements in place at Capella and IDOL contribute to learner success, impacting and benefiting learners and their academic achievements. A strong curriculum, learner support, and course design based on current theories of learning and instruction, and dedicated faculty contribute to these successes.

SHARING IDOL'S SECRETS OF SUCCESS

Instructional design best practices dictate that thoughtful program and course design, implementation strategies, and ongoing focus on quality and interaction help steer a program to successful outcomes. IDOL practices these elements for success, through guiding design decisions based on research, working with instructional design professionals within Capella, and building on the strategies that have been shown to bring success in the Capella University learning environment. Once program-level decisions are made, the priority is to create instructionally appealing courses that utilize the appropriate mix of activities, media, discussions, and interactions to provide a robust, interactive course.

ENGAGING COURSE DESIGN

Courses at Capella are designed according to nine essential teaching and learning guidelines. These guidelines are derived by the Capella course development and curriculum leadership and reflect best practices and recent findings in the literature. The guidelines are listed below, followed by examples of three of the guidelines:

1. Focus on professional impact.
2. Define learning outcomes as competencies.

3. Define appropriate indicators of competence.
4. Develop grading rubrics.
5. Frame learning as a challenge-driven process.
6. Provide a supportive structure at the unit level.
7. Integrate unit activities into final projects.
8. Add media enhancements.
9. Encourage learner-to-learner interactions.

Three of these guidelines—6, 7, and 9—are instrumental in creating high quality, relevant, and engaging IDOL courses:

Provide a supportive structure at the unit level: Each unit of instruction is a cohesive whole that connects, like building blocks, to the final course outcome. This structure provides learners with guidance, examples, instructions, resources, activities, and assessments to enable them to successfully meet challenges posed by learning objectives and achieve the course competencies (see Figure 1).

Integrate unit activities into a final project: In most courses, the learning activities in each unit provide the building blocks of

the final course project or paper. Learners receive formative feedback from their peers and the instructor at project milestones in order to revise and improve the project elements throughout the course. When unit assignments lead to the development of a final project, the culminating assignment is not an isolated activity that learners scramble to complete at the end of the course; instead, it is the result of a carefully planned sequence of milestones. This course design strategy provides explicit guidance and structure along the way, often resulting in learners producing high-quality projects and academic papers (see Figure 2).

Encourage interactions: Many instructors and learners feel that their involvement with the content and learners and instructor is greater in a Capella courseroom than in a typical on-ground classroom. The expectations to be informed by the readings and to integrate that new learning into responses to discussion questions and to peers means learners must integrate ideas into their present knowledge and share that new information. While it is a different form of interaction, it is often

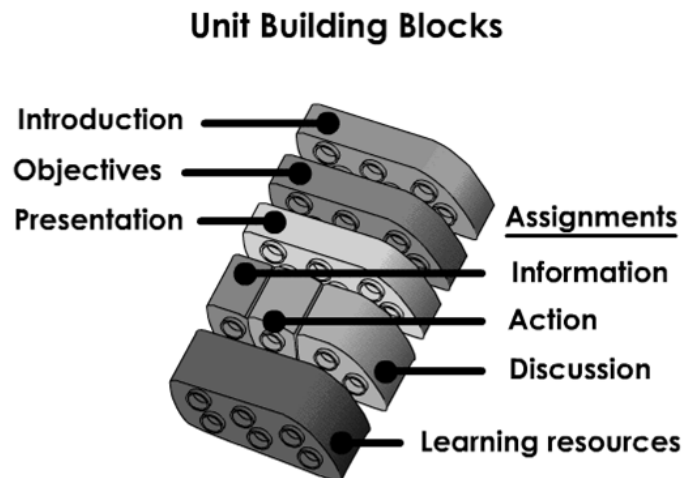


Figure 1: Each unit of instruction contains an integrated set of activities and resources focused on the learning objectives.

Course Project Building Blocks

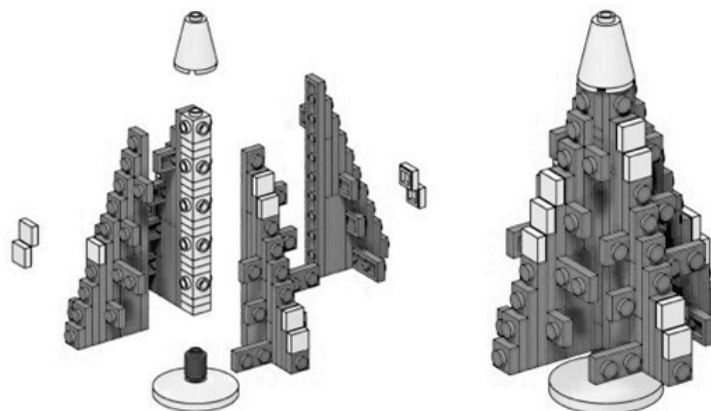


Figure 2: Activities and unit assignments are integrated into the final course project.

more intense and more in-depth than typical classroom discussion.

RELEVANT CONTENT AND ACTIVITIES IN IDOL

The IDOL curriculum is competency-based and is the result of integration of three sets of competencies: the competencies for instructional designers as defined by the International Board of Standards for Training and Performance Instruction (ibstpi); the ethical standards for instructional designers, also defined by ibstpi; and Capella competencies in research, critical thinking, and scholarly writing established for the university.

Using ibstpi competencies as a guide, courses in the IDOL curriculum are designed to have meaning and relevance to learners, either in current employment or a future role. Examples include:

- In the introductory course in instructional design, learners create a design document for a lesson or course.
- In the interface design course, learners create a Web site that summarizes and illustrates the essential principles of interface design.

- In the theories and models course, learners study instructional design theories and work together to envision changes to existing ID models.
- In the course on evaluation and assessment of instructional design, learners create a course evaluation plan, including six evaluation instruments developed during the course.
- In the leadership course, learners develop an action plan for a proposed e-learning solution.

FACULTY: QUALIFIED, PASSIONATE, AND ACCESSIBLE

The academic reputation of any university rests on the quality of its faculty, and IDOL faculty are an essential component in the overall success of the IDOL program. IDOL faculty are a diverse group of professionals with experience in a wide range of settings who are recognized experts and have an average of 19 years experience in instructional design. The faculty bring experience and passion to their teaching as both scholars and practitioners.

IDOL attracts outstanding faculty from the United States and the world who value being able to engage in their professional

practice as they also teach about it. They have chosen to teach at Capella because they share a passion for teaching and for instructional design, and they adapt well to the demands of online instruction. Currently, IDOL is comprised of a faculty chair, several full-time core faculty, and a stellar group of adjunct faculty who support learners and share their expertise.

Learners enrolled in the IDOL program have extraordinary access to faculty. Although all IDOL courses are asynchronous, modern communication tools enable frequent and substantive interactions between learners and faculty, as illustrated in the following examples:

Interactions in the courseroom. Courses employ discussion threads, in which learners discuss content of course units and through which faculty provide comments and guidance. Many faculty also provide unit summaries, pulling together the diverse ideas of the discussants and enabling the faculty member to share his or her unique experience. The courseroom has its own e-mail system and assignment area where faculty can provide individualized feedback on learner assignments. Faculty establish their unique courseroom protocols, such as frequency and quality of posts, expectations regarding interactions with other learners, encouraging participation in teams and in peer reviews of assignments. Many faculty have expressed the thought that they interact *more* with learners in their IDOL courses than in a typical on-ground classroom.

Electronic communication. Outside of the courseroom, faculty and learners communicate chiefly via e-mail, instant messaging, and phone calls. Many faculty also hold virtual office hours for their learners, which allows them to contact their instructors at a time when they are likely to receive an immediate answer to a question, and some courses may include an optional synchronous meeting so learners can experience the range of possibilities available with today's technology.

PhD Colloquia. At three stages during their doctoral programs, IDOL learners come together for 5 days to meet with faculty and other PhD learners from across the university. The time at colloquium is much like a high-caliber professional conference, with keynote speakers, breakout sessions, and networking events. Learners spend nearly a week among an engaging community of scholars, participating in workshops and gaining exposure to diverse perspectives that challenge and expand learner thinking. Colloquium sessions and social gatherings help learners develop academic skills, establish peer networks, strengthen doctoral competencies, and meet with faculty face to face. Support services, such as librarians and writing center personnel, are also available at the colloquia to work with learners one on one.

LEARNER SUPPORT

An important element in the success of IDOL learners is the level of services and support to help them accomplish their goals. The learner support system sets Capella apart from many other learning institutions. Capella learners are not out there in cyberspace by themselves. Rather, there is a powerful support structure devoted to helping learners have a successful, rewarding learning experience. Here are a few of the support structures in place at Capella University for IDOL learners:

- *Enrollment counselors* guide learners step by step through the admissions and enrollment processes.
- *Academic advisors* provide support and assistance throughout the learner's program. Advisors help learners plan their coursework, navigate the bureaucracy of the institution, and understand the requirements for degree completion.
- *Financial aid staff* help learners explore financing options, including federal and

nonfederal loans, grants, and scholarships, and employee tuition reimbursement.

- *iGuide* is a personalized Web portal where enrolled learners can register for courses, apply for financial aid, visit the library, and view the academic calendar. iGuide gives learners secure access to their courses and transcripts, as well as links to Capella's interactive learning community.
- *Capella University Library* offers a variety of services to help learners and faculty locate information and resources they need. Librarians are available to assist learners by phone, chat, or e-mail, and the university library provides extensive access to scholarly and professional resources.
- *Support personnel* interact with learners on all kinds of matters from administrative issues to coordinating reviews of learner dissertations to smoothing the way to graduation.
- *Faculty and mentors* guide doctoral learners through their educational journey, from their coursework to preparing for the comprehensive examination to choosing dissertation topics.

Learners entering the IDOL program receive support from their very first contact with Capella. After the learner has made the decision to enroll, he or she works with an enrollment counselor to

develop a degree completion plan, which lays out required courses. The counselor provides guidance about which courses to take, in which order to take them, recommended course combinations, and when the learner will attend the three required colloquia for PhD learners. All learners begin with the school of education's orientation to the university, the school, and the IDOL specialization. The first course combines content with useful information and resources to provide new learners with knowledge and skills they need to be successful in their online degree programs, along with a writing assessment, critical thinking skill development, and protocols for searching for appropriate resources, setting the tone for the remainder of their educational journey.

PUTTING IT ALL TOGETHER

Success is often seen as a serendipitous combination of chemistry and events that impact the individuals involved in the experience. At Capella and within IDOL, the focus is on strategies that help increase the probability of creating that positive chemistry and energy, and designing events and activities within the courses and learner interactions to ensure the success of our learners. Faculty, learners, leadership, and well-designed curriculum and support mechanisms all help point the way to that success.



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The Next Generation of Planetary Universities

A Two Part Bird's Eye Review

Irving H. Buchen

PART ONE: FUTURE GLOBAL CURRICULUM MODELS

Often in the last century the final stage of academic preparation occurred after graduation. Many graduates of Oxford and Cambridge embarked on the European grand tour as the finishing academic experience. To be sure, its roots are much older. Its earliest version appropriately took place at the Academy, where young philosophers in ancient Greece sat at the feet of Socrates and engaged and developed the learning

exchange of Platonic dialogue. Rome often favored more distant travel to such hallowed and exotic cities of learning in its empire as Alexandria. Holy pilgrimages to Jerusalem, Mecca, and Constantinople (later Rome) were the appropriate rites of passage for clerics, even to this day. After World II, the middle class entered the scene with study abroad and/or government sponsored programs of international service such as the Peace Corps. Part of the progressive difference of modern college graduates from their parents was the latter granting them the means to enjoy what formerly was restricted to the upper classes or the titled.

There are a number of distinguishing characteristics about the above pattern. First, travel was broadening. One had to leave one's native shores to directly experience difference. In today's parlance, it involved leaving face two face (f2f) for distance education. Second, learning was regarded as incomplete and unfinished without acquiring an international perspective unavailable at home or on campus. Third, although it was a particularly valuable experience for future heirs and lords, especially if they were involved in empire building and maintenance, now it prepares future managers and leader for managing and leading global businesses. Finally, although historically the geographical preference initially was for European settings, this began to change after WWII.



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A postwar educational immigration emerged. Initially hundreds and ultimately thousands, especially from current or former empire countries, came to European, English, and American universities to study. Foreign students became a familiar sight on campuses and because they generally were from exotic lands, administrative arrangements often featured evenings of native dress, art, and food as gestures of recognition. Indeed, for many Americans planning to study abroad, these foreign students introduced new destinations, especially in Latin America, Africa, and Asia.

The coexistence of the two directions of study abroad—going there and coming here—had a number of immediate and long-term effects on curricula. Perhaps the most important was the emergence of area studies and area experts. Whether it was Middle Africa or the Middle East, specialists also had to be generalists as well. And whether or not separate departments of areas studies were created, a new or at least unfamiliar curricula standard of holistics began to appear.

The need to be aware of and communicate the complex and interactive components of a particular region resulted in a greater emphasis on multidisciplinary and team teaching. Many departments of areas studies indeed were cobbled together by borrowing the needed expertise from traditional disciplines and departments. In some instances, it was a professor's independent choice of an extended interest; in other cases it involved the persuasion or the attraction of an administrative, financial, or research carrot. But whatever the means, it created for the first time a standard for teaching, inquiry, and research that significantly pushed the academic range beyond departmental borders. Although such multidisciplinary often failed to achieve wider or mainstream recognition and adoption, it introduced an interactive model of internationalism that has

remained a selective rather than a broad-based model generally unfulfilled until recently.

The next stage of the evolution of international education cannot be understood without the introduction of two major formative institutions: one group of academic newcomers and another from outside the academy. The former is represented by emergence of online for-profits, the latter by the corporate universities of multinational companies.

Almost all the new universities created after WWII were for-profit and online—a new correlation and benchmark. They offer degrees ranging from associate to bachelor's to master's to doctoral, enroll students from all over the world, and almost all do so by distance education. The largest university in the United States—the University of Phoenix—enrolls over 350,000 students, hires 500 faculty each month, is regionally accredited, and regularly makes money for its owners and shareholders. The distinctive focus of for-profits big and small is threefold: developing quality courseware for self-directed adult learners; providing strong student customer support services including student recruitment marketing; and identification of and designing programs for emerging career areas. In many ways these successful institutions share much of the entrepreneurial vision and mission of corporate universities which are also for-profit and, of late, online.

Operative during the same post-WWII period and paralleling educational developments, multinational companies created their own corporate universities. Now numbering over 100 and ranging from McDonalds to Toyota, these for-profit extensions had less difficulty developing cross-disciplinary competencies, especially for cross-training, than their academic counterparts. They already were multinational. Besides, they also were tasked to create an international teamwork culture and ethic to serving the common bottom

line. In addition, they were quick to implement e-learning and employ courseware because of the relative ease and lower costs of enriching the mix with overseas employees in different time zones. Moreover, what gradually began to emerge but what generally eluded academic institutions was a shift in student perspectives. The different expertise and expectations of such employees when they became students enrolled in traditional graduate degree programs generated a change-force from within.

Generally, when employees from multinational companies trained by their own corporate universities became university enrollees, they impacted the status quo in many ways. First, such students placed a higher value on the interoperability of disciplines than their professors or courses did. Happily, that sin of omission often was redeemed in large part by more student-generated than instructor-designed exchanges in chat rooms. Then, too, typically their research assignments or capstone projects took the form of case studies which replicated in miniature the more holistic range of their employment and previous training. Second, diversity of race, ethnicity, and gender became too visible and important to be ignored. Although often initially only token, adjustments began to appear. The most serious efforts to extend the traditional range and definition of diversity involved the adaptive areas of learning diversity and implementation variety. Such culturally driven forces required instructional design to engage the issue of cultural determiners of both learning and country adaptation. How a culture learns and thinks became as critical to recognize and value as how one adjusts the delivery of MBA solutions and systems overseas to another culture.

Finally, and most important, was the gradual recognition that these students were embryonically new kinds of leaders and managers. Their range, the focus, the reach was global. Even team-based train-

ing had to factor in cross-cultural communication and negotiation. Reinforcement of the trend surfaced in other ways. For the first time, non-Americans were chief executive officers (CEOs) of American companies. Reports of earnings routinely were broken down into domestic and overseas sources. Investment brokers increasingly offered the greater returns and risks of global securities. Many American companies were stampeded into going global, only to have to tap their domestic earnings to make up for their international losses. Indeed, sophisticated executive headhunters and recruiters quickly entered the international scene and began to secure a new niche by seeking CEOs who were really GEOs—global executive officers.

Although academic institutions often operate glacially and are not known to be entrepreneurial, that is no longer the norm. A number of significant signs of catch-up and even transformation have been taking place. The example of corporate universities; the identification of new careers and career areas by online for-profits; the needs of students from multinational companies; and the international reach and universal access of the Internet have all converged to signal a major transformation of a number of twenty-first century universities into new models of global vision, curricula, and delivery systems. That requires separate examination, but the emphasis will be on the operational version of such institutions aspiring to become planetary universities.

PART TWO: FUTURE OPERATIONAL AND STRUCTURAL MODELS

The attempt here is not to definitively survey or examine all that is going on. Rather, the focus is to identify and examine a representative sample of those emerging future institutions and practices which display sufficient and significant typicality, durability, and variety to document the

future structural transformation of academics as global enterprises.

At least three different institutional prototypes and strategies have appeared and can be profiled. One type seeks explicitly and often exclusively to address globality in terms of workforce needs. Another ambitiously changes its mission and redefines and restructures the entire enterprise as a global university. The most extensive and varied versions achieve global range through structural alliances, extensions, and even outsourcing.

The Fuqua School of Business of Duke University provides an excellent example of the transformation of the traditional MBA executive program. The target audience is now future global executives. Typically, an average of 20 countries is represented in each class. Residencies are rotated on four continents. Often held at corporate sites, global business leaders and experts are invited to supplement the perspectives of professors. Blending f2f with e-learning, the global MBA also structures collaborative team building across many different cultures. In the process, student networking supports later alumni connections after degree completion and becomes a critical referral system of innovative developments and personnel.

Highly ranked by *Business Week*, *US News and World Report*, and the *Financial Times*, the Duke program like many others is an excellent example of accomplishing its shift to globality by focusing on developing global leaders. Everything then follows in the wake of this singled-minded focus: curriculum, business participation, international residencies, electronic team-building, student and alumni networking, and so forth. There is no indication that Duke's emphasis on global leadership has been orchestrated as part of a campus-wide revision of mission. Indeed, that approach, which has been elected by a number of institutions, provides a separate illustration of going global.

Rutgers University, the State University of New Jersey officially revised its mission to reflect its future role as a global educational institution. To accomplish this universitywide change, three approaches were identified and implemented. First, five divisions of area studies covering all countries were identified. Second, recurrent international themes were defined, monitored, and often supplemented by a standing committee of faculty. Third, the global program was to embrace and include all disciplines (including the creative arts) and all campus institutes and centers.

Unlike the limited focus of Duke, Rutgers like a number of other like-minded institutions opted for total change via diffusion. But lest such comprehensive inclusiveness be lost or fall between the cracks, the president and his senior staff were built directly into the hierarchical chain of command. In addition, the development of the university's strategic plan was mandated to reflect and incorporate the new global mission. Understandably, as a state university, Rutgers also has to factor in encouraging foreign investment in New Jersey as well as serving and supporting the international operations of New Jersey corporations.

The Rutgers example, like many other universitywide policy changes, represents not just a shift in mission but in vision. The president and his or her governing board acknowledge the emergence of a different world in the twenty-first century and a major shift in the future employment of its graduates. Assessing the degree to which the university is moving toward globality, the Rutgers leadership calls for a fundamental change in direction and commitment, but they recognize that it is a formidable task. Universities, like sovereign countries, operate internally with territorial borders of their own. The change strategy has to be appropriately indirect and even peripheral. Like a series of concentric circles which move from the

outside hopefully to the inside, basic structural fiefdoms are not directly addressed. Rather, a series of overlays are developed and promulgated, sometimes enriched with various attractive incentives, and allowed to work their trickle-down magic. Has or will it work? It has to because it is both future- and student-driven and because universities are playing catch up to functioning like world-class multinational institutions.

An interesting confirmation and variation of the Rutgers example, but with an important difference, is provided by New York University. Like Rutgers, NYU promulgated a new initiative that "required the positioning of global operations within that vision." Toward that end, a new and distinct Web site has appeared which bears in large letters "Global University," with NYU appearing below it in smaller font, and which responds to search engines as a global entity in its own right. But unlike Rutgers and many other universities that essentially just added globality to the job description and portfolio of existing directors of international programs, NYU has created a new and separate Office of Global and Multicultural Affairs, appointed a vice provost to head that office and has just advertised for an executive director of global operations.

Lest one conclude that this new title is cosmetic, add-on, or token, the job description could be that of a GEO running an international business. The executive director will supervise NYU's six global academic and business operations including its six international centers and future satellites; manage all logistics of f2f as well as virtual delivery and all capital investments and expenditures; and provide policy development for input into overall strategic planning and development. Here perhaps is a clear instance of how the development of a new direction carries within it the creation of new executive and management careers.

The third type of global academics is totally different from the direct approach of Duke or that of the diffused mission-vision of Rutgers and NYU. Because it involves the greatest number and widest variety of institutions and programs, it has about it both the substance of a separate pattern as well as the transitional prospect that it may serve as the optimum solution to facilitate and bridge gradual crossover by many into global fields. If so, then to the notion of multiculturalism has to be added that of multiple institutional alliances.

Not unlike the internal academic process of linking different departments and disciplines to create multidisciplinary area studies, various institutions have negotiated partnerships to accomplish their global educational ends. But in all cases cited below, the more familiar business version of mergers or acquisitions is not involved or pursued. Rather, the participating partners remain distinct and separate; the preferred configuration is decentralized rather than centralized. What thus is often structured is a series of satellites linked to the supplemental strengths of each other but orbiting around a common global educational goal. Separate identity and control are maintained through retention of expertise. Even the descriptive language selected to describe the negotiated relationships preserves the relative autonomy of interdependent entities.

Here, then, is a brief capsule version of a number of such global alliances:

- The Global University Alliance (GUA) is composed at this point of six partner universities; three from England, two from Australia, and one from the United States (University of Wisconsin, Milwaukee). Undergraduate and graduate degrees are offered at GUA Centers exclusively in Asia. The favored study areas are information technology and business administration. The degree programs seek to fuse both global range and application through its partnership

with developing Asian information and business companies. All programs are in English and use a blended delivery system of f2f and virtual courses taught tutorial through Platonic dialogue.

- George Mason University through its Center for Global Education has committed itself to an expansion of its student international programs. Bearing the significant title of "Global Connections," the university has established or enlarged special undergraduate and graduate degree programs in global affairs and systems, world religions, peace studies, and international commerce and policy. Equally as important the university has structured through memos of understanding with universities all over the world the acceptance of their courses toward GMU international degrees. The result is now a two-way, study-abroad program which justifies its being offered under the umbrella of Global Connections.
- The Intercultural Management Institute of American University offers a totally different approach. It is an institute and thus does not offer academic degree programs. Rather it is an entrepreneurial global business consulting and research services. Specifically, it specializes in two areas: assisting the adjustment of employees and their families with overseas assignments as well as their return; and preparing and training individuals and teams working in multicultural settings to excel in international environments. Its university justification is maintained by publishing a research journal, the *Intercultural Management Quarterly*, and hosting annual conferences of intercultural experts. Its inclusion here is justified in part by demonstrating the research and employment possibilities of global degrees.
- Probably one of the most ambitious examples of global inclusiveness appears in the Global Derivatives Doctoral Degree Program (GDDDP). The focus is the highly specialized area of global quantitative finance. The range is totally international and includes nearly 50 PhD programs from the United Kingdom, United States, Canada, Australasia, and Europe. It lists and facilitates different concentrations of the field. Thus, Stanford's PhD in finance offers dynamic asset management; Vanderbilt, differential mathematics; Hong Kong University, risk management; University of Valencia, econometrics. Then, too, the standard designation of finance now reflects global variety. PhDs are offered in Management science, mathematics, business administration, and so forth. In short, what emerges is a global consortium approach to a particular field which in fact has been dramatically impacted and even created by increasing international interoperability. A world community of specialists, in this case of quantitative finance, now binds academic institutions together.
- The University of Texas has created the Global Business Accelerator (GBA). Its mission is stimulating wealth creation and economic growth through technology-based ventures. Unlike other academic arrangements which exclusively and only linked universities together, GBA has created a coalition of partners that include government agencies, regional development centers, international technology incubators, universities, and sponsoring corporate partners. The mission is to assist technology start-ups with consulting and mentoring support services and to inculcate a global vision. One of the GBA programs is Project Caribbean.
- Michigan State University has concentrated its efforts in assembling a Global Access Data Base. Compiled by MSU international experts, this portal is unique because it is searchable not just by one but a combination of categories. It also can accommodate special inter-

ests by identifying Web sites that deal, for example, with the environment in Latin America or labor in Mexico. Universities like MSU thus are supplementing domestic now with global informational links and sources. Indeed, if one were to search for international engineering programs, one would find over 50 programs all over the world that are part of an international consortium of Global Engineering Education Exchange Program.

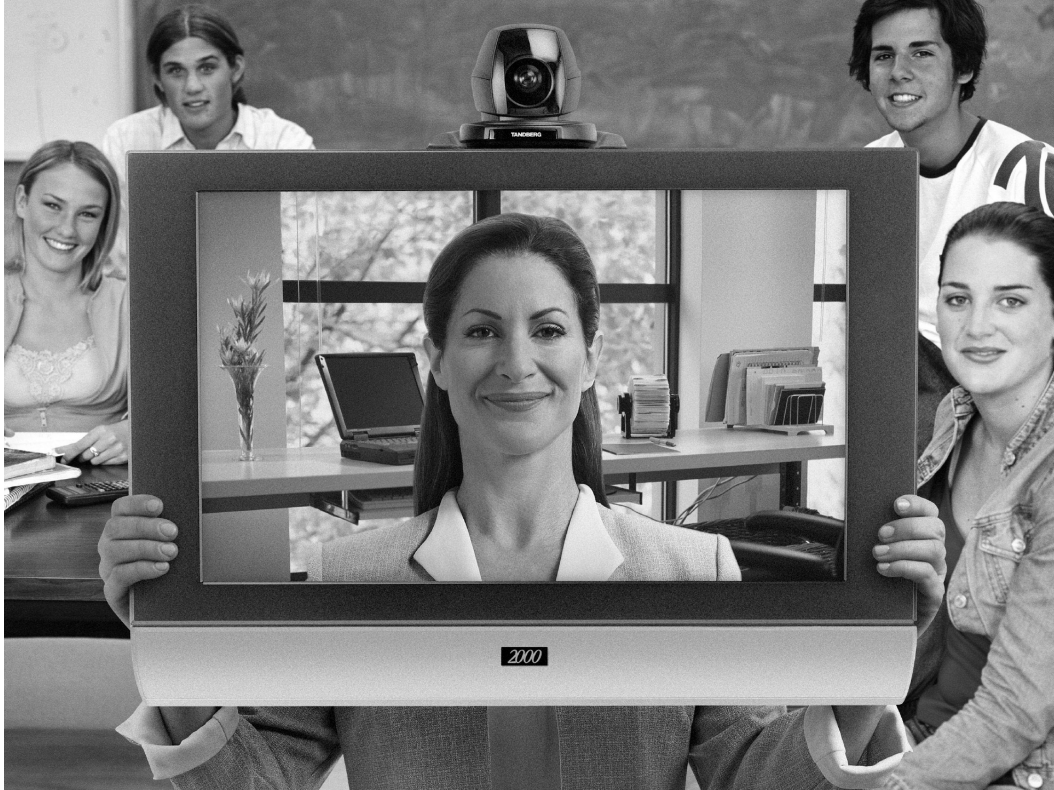
One could multiply the examples, but they would only confirm the extent, creativity, and variety by which academic institutions have reinvented and reconfigured themselves, their mission, and delivery systems to become global institutions and partners. One of the most immediate yields is the creation of new executive- and professional-level titles and job descriptions or a significant expansion of that range and systemic complexity. Thus, the traditional CEO is now increasingly a GEO—global executive officer. The familiar chief information officer (CIO) is now a GIO; the standard chief finance officer is now a GFO, often with a PhD in derivatives; and even basic engineers are now listed as global engineers (GEs).

On a broader policy level one even can claim that the diversity and substance of these various new academic forms not only generally exceed the mission and vision of current corporations and their training units, but also that the academic world globally is becoming a major force for planetary consciousness and cooperation. As such, it may be our new best hope of championing the notion of one world and serve as an academic version and clearinghouse for the United Nations.

A more ordinary claim but ultimately perhaps maybe finally more transforming, rests on what may gradually occur in cur-

ricula. Currently, many academic courses are given a prefix to symbolize the extension and enhancement of e-learning. Thus, catalogs list e-economics, e-finance, and even e-composition. The next step may be to add the addition of a new prefix: g-economics, g-finance, g-engineering of the double hybrid: eg or ge. Such signaling of change in context may provide current and future students with a new lens with which to view, study, and engage the world as whole.

Finally, the value of the above examples may provide guidelines and models to academic institutions contemplating going global. How would they benefit from the knowledge of the prototypes? What directions, models, structures are available for the institution to follow? Clearly, one of the first choices is whether the university should be broad-based or selective, mission/vision-centered, or workforce-focused. Another key consideration is whether it should be based locally or abroad or both? How to manage their limited expertise and resources would be another concern. Should they be restricted by their own extent or can consortium partners and alliances be used to overcome such limitations? Above all, what has the creative forging of new global structures, curricula, and relationships done for the participating university? Has it energized or recharged students, faculty, and administrators to a new sense of mission or even vision? Will the amplified programs produce the next generation of global engineers, finance experts, and executives? Even at this early stage of what is shaping up as a major twenty-first century trend, the answer is already clear: global universities provide the distinction of offering not only competitive edge, but also moral advantage. And that doubling, like sustainable ecology, may become the world standard.



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Designing Distance Instruction for the Arab World

Linguistic and Cultural Considerations

Angelene C. McLaren

INTRODUCTION

The job of the instructional designer is to create sound instruction that will lead to appropriate learning. However, the instruction design process has, traditionally, not taken into consideration the variables of language and culture and their impact on learning outcomes. Prior to the demands of today's global marketplace, this approach did not prove problematic. Today, however, the need for

sound global instruction in English is on the rise—especially in the Arab world—with no end in sight.

What, then, is the job of the instructional designer? Should it be to continue with business as usual? Or should demand prompt changes in how the design of global instruction is undertaken? What is the marketplace demanding, and what should be the response of those who are responsible for creating these learning modules? This article discusses the rise of distance and/or virtual higher education in the Arab world, will look at their modes of instruction and at linguistic and cultural interference and, finally, will examine the necessity of including culture and diversity in the design of global instruction if we are to affect positively learning outcomes and completion rates in the Arab world.

Before beginning this discussion, it is necessary to define the terms *culture* and *language* as they will be used in this context. Culture here is defined as “whatever it is one has to know or believe in order to operate in a manner acceptable to its members, and to do so in any role that they accept for any one of themselves” (Wardhaugh, 2002, p. 19). Language is defined as “what the members of a particular society speak” (Wardhaugh, 2002, p. 1).



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DISTANCE HIGHER EDUCATION IN THE ARAB WORLD

Over the past 20 years, Arab higher education institutions have made large strides in the area of distance education. As a result, several distance education institutions have been established. Their modes of delivery vary from being completely stand-alone virtual universities, to being off-shoots of traditional universities. The Arab world has adopted the worldwide trend of having traditional universities provide conventional and distance education simultaneously. One example of this is the Open Learning Centers in Egypt (Mohamed, 2005). There are also examples of single mode distance education universities, where the purpose is solely distance education. One example of this model is the Arab Open University, which was established in 1999, with the main campus in Kuwait and branch campuses in Bahrain, Egypt, Lebanon, Jordan, and Saudi Arabia (Mohamed, 2005). In terms of virtual universities, the Syrian Virtual University is the first, and only, online university in the Arab world using this model (Mohamed, 2005).

MODES OF INSTRUCTION

Although the delivery methods differ, the one common denominator between all these types of distance learning institutions in the Arab world is that the language of instruction is almost unanimously English. Whether the mode of delivery is printed materials, videos, audio lectures, or interactive user interfaces, the language of instruction is English. This is especially true in the areas of technology and science (Findlow, 2006). The reasons for choosing English over Arabic are varied: lack of instructional materials in Arabic, the need to fit into a global learning environment, the need to appear modern and forward, the lure of economic and social prestige, as well as need to suppress Islamists and Islamist rhetoric within higher education.

To this end, Arabic language in higher educational institutions in the Arab world is routinely relegated to areas of cultural and religious studies (Findlow, 2006).

THE TRADITIONAL STANCE OF INSTRUCTIONAL DESIGN

At the first stage of the instructional design process, *analysis*, instructional designers are encouraged to take into consideration the learners for which a piece of instruction is being designed. Traditionally, this has meant knowing such things as: age, gender, level of education, socioeconomic status, and learning style and preferences. At no time have language and culture variables been considered in the makeup of the learner. Maybe that was due to lack of demand, but that no longer is the case. With more and more companies going global, and the rise of distance education as the preferred method of instruction for many learning communities, language and culture must become a part of the equation if the goal is to produce sound instructional materials that meet the needs of every learner.

Traditionally, instructional technology has taken a linguistic and culturally neutral position in the creation of instructional materials (Thomas, Mitchell, & Joseph, 2002). However, theorists have now begun to consider that culture (and language) may play a greater role in the conveyance of knowledge than previously thought. Because knowledge is socially mediated, and socialization is grounded in culture (and language), it follows that education is seen not as a process of conveying knowledge, but rather as a coconstruction of education within sociocultural (and sociolinguistic) contexts (Thomas, Mitchell, & Joseph, 2002).

In the Arab world, instructional materials are not produced by Arab instructional designers within the countries of instructional delivery, or even by external instructional designers with knowledge of the

language and/or culture of the Arab learner. Rather, the trend thus far has been to import instructional modules “as is” from abroad—usually from the United States, Canada, and Great Britain (Mohamed, 2005). This has resulted in instructional modules that have a decidedly Western worldview, and do not take into consideration linguistic and cultural interferences that may impede the transfer of knowledge and result in learner dissatisfaction, high attrition rates, and low learning outcomes.

LINGUISTIC CONSIDERATIONS

Language has significant roles in the way learning occurs in the Arab world, where English is not the primary language. The Internet is the center of e-learning, with most of its resources in English. One way to address this issue is to accelerate the conversion of online and instructional materials into the Arabic language, but many find this approach impractical (Akinyemi, 2002). The other answer would be to address the problem during the analysis, design, and development stages of instructional preparation. Linguistic considerations within these stages could include: the reading and comprehension level of the learner in English, paying attention to text density, and ensuring that sentence complexity matches the level of the learner for whom the material is designed (Akinyemi, 2002).

CULTURAL CONSIDERATIONS

What counts as “learning” from one situation to another depends largely on cultural, socioeconomic, and political factors. The process begins with what each society deems desirable knowledge, and indeed what counts as knowledge at all. This leads to the society producing an educational system in its image, whether this is in the form of an informal situated learning system or one that models more the Western

model of dedicated educational institutions (Atherton, 2005).

Because culture is a part of the social fabric of a society, it therefore cannot be excluded from one of society’s most important institutions—education. Arabic linguistic and cultural variables are often at odds with traditional Western approaches to teaching and learning. Without due consideration to culture and cultural learning style, distance education designed from a completely Western worldview may handicap non-Western learners’ adaptation to the distance, virtual, and/or online learning experience (McGee, 2002).

With regard to Web-based instruction, there are five cultural dimensions that must be addressed: power distance, collectivist/individualist, masculine/feminine, uncertainty avoidance, and time orientation (McGee, 2002). Power distance (PD) addresses the extent to which less-powerful members expect and accept unequal power distribution within a culture. Low-PD cultures have less hierarchical difference in authority, while high-PD cultures place higher emphasis on leader and expert rather than user. Traditional Arabic education relies on the expert model; therefore, introducing collaborative learning, active learning or constructional learning strategies in these environments may prove problematic for these learners (McGee, 2002, p. 6). Collectivism vs. Individualism refers to the degree to which individuals relate to society or values their own achievement and status (McGee, 2002, p. 7). Masculinity versus femininity addresses gender roles and their variability from culture to culture. Feminine cultures tend to allow cross-gender behavior, while masculine cultures are more likely to maintain strictly defined gender roles. In highly masculine cultures like Arabic, employing learning strategies that included feminine qualities such as role-playing and collaboration may not be successful (McGee, 2002, p. 7). Uncertainty avoidance states that certain cultures vary in their avoidance of

uncertainty. In such cultures it is imperative, for instance, to make sure that learner interfaces are structured in such a way that they prevent learners from getting “lost” and that they contain consistent and repetitive visual cues (McGee, 2002, p. 8). Long versus short-term time orientation refers to the fact that cultures with long-term time orientation believe that stability requires hierarchical relationships and view the family as the model for all organizations with elders and males having more authority (McGee, 2002, p. 8).

Culture, traditions, and conventions of a society go a long way in dictating its educational practices. Cultural values play a large role in the way different societies teach and learn in schools. It therefore seems incongruent to design instruction from a Western worldview, superimpose it on Arab learners, and then to insist that cultural interference does not occur.

In Arab countries, in particular, religion is held in high esteem. In many Arab countries there is separation between the sexes all levels of the society, which includes institutions of learning (Akinyemi, 2003). This is a phenomenon that is not experienced in the West. Therefore, Western instructional designers would not take this cultural variable into consideration when developing learning strategies. This separation of the sexes in higher education is threatened with the advent of Western-designed e-learning modules. A cultural conflict may thus emerge as the interaction patterns cannot be easily controlled between the male and female students. Also, religious barriers tend to dissolve in the virtual realm (Akinyemi, 2003).

Web-based learning is usually social and collaborative in nature. The social and interactive process of virtual learning, according to the Western model, often oversteps the cultural and religious boundaries that exist in most Arab countries (Akinyemi, 2003). For many students, these interactions (e-mail, discussions, chats, and bulletin boards) offer them the first oppor-

tunities of interacting with counterparts of the opposite sex. Because the cultural, social, and religious practice of the Arabs and, indeed, the Muslim/Islamic world forbid gender interactions or socialization, this is seen as a major cultural interference (Akinyemi, 2003).

WHERE DO WE GO FROM HERE?

There are inherently different ways of looking at the world depending of linguistic and cultural variables. By taking into account these variables, instructional designers may reduce the cognitive load and stress for English second-language learners, thereby contributing to positive learning outcomes (McGee, 2002).

It seems clear that if language and culture are at the heart of meaning-making and cognition, then instructional designers must use a design process that is linguistically and culturally grounded. Instructional design cannot stand outside of language and culture. Attention to linguistic and cultural variables will no doubt lead to improved designs and designers as well. Moving forward, instructional designers must critically analyze the linguistic and cultural dimensions of learners in order to strengthen the instructional design process (Thomas et al., 2002).

CONCLUSION

In an effort to provide flexible enrollment and lifelong learning availability, Arab higher educational institutions have joined in the global frenzy of providing distance and/or virtual higher education learning environments for their learners. The trend has been to import learning units from abroad, mainly from the United States, Canada, and Great Britain. Unfortunately, these instructional models have a decidedly Western worldview, and do not take into account linguistic and cultural variables that may cause interference and thus decrease learning outcomes and increase

attrition. Going forward, instructional designers must design instruction with diversity in mind. The marketplace is a global one. In order to accomplish the job of creating sound instruction that will lead to appropriate learning, instructional designers must take linguistic and cultural variables into consideration. This is the only way to meet the learning needs of all learners in the growing global classroom.

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Review of Current Issues in Quality E-learning Environments

Abed H. Almala

INTRODUCTION

Many institutions of higher education, educational organizations, the business community, and learners are embracing e-learning for a variety of reasons and needs. These parties refer to key factors such as flexibility, using mixed interactive multimedia, Internet research, archiving, electronic networks, telecommunications, and cost to support the idea that e-learning can 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 to traditional learning, and an 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). Recent educational statistics and forecasts have revealed that e-learning is gaining ground in community colleges and universities nationwide. Investigating and assessing the planning and implementation processes of e-learning courses and programs at these institutions of higher education is necessary to determine the quality of a Web-based learning environment. Ensuring a quality e-learning environment is essential



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to provide students with the full range of benefits that e-learning entails.

DISTANCE LEARNING REVIEW AND STATISTICAL TRENDS

E-learning is a component of the telecommunication model of distance learning. Distance learning can be defined in several ways: (a) separation of instruction and learning in time and place, (b) connection (participation, communications, community) through educational media, and (c) a learning process driven at-will by the learner (Palloff & Pratt, 1999). Distance learning in which students and faculty are joined by technology and educational media, rather than a traditional classroom environment, is becoming a viable alternative to common teaching methods, and is poised for larger growth over the next several years. One of the recent comparative studies on students' satisfaction with distance learning in comparison to face-to-face classrooms found that "students show little preference for a live classroom to distance education" (Allen, Bourhis, Burrell, & Mabry, 2002, p. 93). Other recent studies and statistical reports have witnessed that distance learning has a stable place in the higher education arena.

Distance learning is growing rapidly. 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, an accredited 4-year private institution, has experienced 70% enrollment growth from 2001 to 2002 in its undergraduate and graduate e-learning degree programs (Shea, 2002). Another example is Iowa Community College Consortium (ICCC), where the growth of e-learning classes and students is clearly significant: The ICCC system is expecting a growth of 25% in student enrollment (Neises, 2003).

Additionally, community colleges and universities in the Washington, DC metro-

politan area have experienced significant growth in distance learning. According to a report published by *The Scholar*, the student and alumni journal of Strayer University, a Washington DC-based, for-profit, 4-year institution, "the Fall of 2000 enrollment of online students was 2,000 with 121 classes offered online" (Strayer University, 2001, p. 5). In fall 2001, the number of students enrolled in Strayer University's online program increased to more than 3,600 students and 240 classes due to introducing new e-learning software and other related technological infrastructure (Strayer University, 2001). An online press release by the Virginia Community College System (2003) stated that "enrollment in distance learning courses at Virginia's 23 community colleges increased by more than 12 percent last year, surpassing overall enrollment growth."

Due to this increased enrollment, organizations, community colleges, and universities nationwide have embraced and experienced different modes of distance learning, such as satellite, Internet, World Wide Web, TV, video, audio and print. However, the Internet and the World Wide Web are shifting this mode of distance learning to the forefront. Recent data suggest that most distance learning courses offered by the Virginia Community College System are Web-based (Virginia Community College System, 2003). A report published by the U.S. Congressional Web-based Education Commission (2000) stated that "[today's] U.S. colleges and universities [alone] offer more than 6,000 accredited courses on the Web" (p. 77). Furthermore, the U.S. Department of Education (2003) reports that 90% of institutions that offered distance education courses indicated that they offered Internet courses using asynchronous (not simultaneous) computer-based instruction and 43% offered Internet courses using synchronous (simultaneous) computer-based instruction as a primary technology for instructional (e-learning) delivery.

Many other educational and training organizations are expected to experiment with this fairly new Web-based learning mode on a regular basis to offer effective e-learning courses and workshops. For instance, the State University of New York (SUNY) Learning Network offered more than 2,500 Web-based e-learning courses at the beginning of the 2003 academic year with 38,000 enrolled students, compared to 8 courses and 119 students in 1995 (Lee, 2003).

E-learning, a type of distance learning, is a widespread and dynamic learning environment that allows instructors, learners, and course materials to be placed at different locations so all parties can interact at the same or various time frames, using well-designed, Web-based technology tools to facilitate the learning process. According to Dabbagh and Bannan-Ritland (2005), online learning—another common term for e-learning—is “an open and distributed learning environment that utilizes pedagogical tools, enabled by Internet and Web-based technologies, to facilitate learning and knowledge building through meaningful action and interaction” (p. 15). This dynamic and flexible mode of e-learning is in demand by individuals and the business community. More people, even baby boomers, are looking to be trained via the Web on the latest computer programs, either for work or for recreation. Gartner, a leading global technology advisor, predicts that “e-learning will be the most used corporate application on the Web by 2005” (EPIC, 2002).

Web-based e-learning is also changing the teaching and learning culture in institutions of higher education. In fact, it has increased and intensified communication by connecting the globe in an unrelenting mode of informational availability. Khan (2001) describes the Web as “well-suited for open, flexible, and distributed learning” (p. 76). Web-based technology is becoming a primary tool/environment to satisfy the educational and training needs of both the

nation’s workforce and many individuals whose personal and professional demands make it difficult for them to attend traditional colleges and universities. According to the U.S. Congressional Web-based Education Commission (2000), the Sloan program director stated that “the online learning model has as much potential for workforce learning as for traditional degree programs” (p. 80).

E-LEARNING ENVIRONMENT

There are two models of distance learning: correspondence and telecommunications-based (Elder, 1997; Meyen, 1998; University of Idaho, 1995). Correspondence includes self-contained study guides, contract and project learning, individualized courses, modular courses, and courses in CD format. Telecommunications-based distance learning comprises interactive television, teleconferencing, Internet-mediated instruction, and Web-based e-learning.

E-learning is a form of the telecommunication model. The e-learning environment provides several instructional activities to enrich the learning process. For instance, the discussion areas enabled by the synchronous and asynchronous Web features in an e-learning course or program allow students to work collaboratively, read critically, reflect, and look at and share different viewpoints and ideas, which gives ongoing feedback and support to all e-learning participants.

E-learning students need to assume an active role in the e-learning environment. These learners should be provided with various learning opportunities and necessary technology tools to discuss, investigate, reflect, and ask questions (Conrad, 2002). E-learning discussion areas provide an ideal platform to do so. Hearing and critically reading others’ points of views, and witnessing different interpretations of the same information, help learners to digest, reflect and fully comprehend a

piece of information emanating from different perspectives (Aragon, Johnson, & Shaik, 2002; Thurmond, Wambach, Connors, & Frey, 2002; Vrasidas & McIsaac, 1999).

Drivers to build an effective e-learning environment need to be established and planned for in order to create quality e-learning courses and programs. Barriers to establishing this environment should be removed. A timely and constructive evaluation system for these courses and programs based on the most recent and effective e-learning research should be in place in all institutions of higher education that design, develop, and deliver quality e-learning courses and programs.

DRIVERS OF QUALITY E-LEARNING

Strong pillars for building a quality e-learning environment need to be in place before implementing successful and quality e-learning courses and programs. The surging enrollment in e-learning courses and the growing demand on e-training sessions by employers have encouraged e-learning developers to continue delivering these quality and cost-effective courses to students through both the private and public sectors. For instance, Gartner asserted that "by 2003, over 50% of all higher education institutions globally [will] be offering e-learning programs to students" (EPIC, 2002). The International Data Corporation (IDC) predicted that by 2004 the United States would account for 65.2% of the world's \$23.1 billion corporate e-learning market (EPIC, 2002).

Access to technology is an important driver for successful e-learning courses. Employees and even ordinary citizens, residing in rural and urban areas, are becoming more familiar and skillful with the Internet and its various applications. Henry (1999) reported that Scarborough Research of New York, a service of the Arbitron Company, surveyed 170,000 adults in 64 major markets from February

1998 to February 1999 and found that 59.9% of Washington, DC metropolitan area adults had access to the Internet—the highest in the country. Steve Case, then chief executive of America Online, and current chairman of AOL Time Warner—the largest of a cluster of online technology companies in Northern Virginia—stated that "the world is ushering in the Internet Century, and Washington is really at the epicenter of this change" (as cited in Henry, 1999).

Another driver for successful e-learning courses is the Department of Education's decision to amend the "12-hour Rule" in November 2002, after it had been ratified by Congress. The so-called "12-hour Rule" required nontraditional learning programs instituted at colleges and universities to offer a minimum of 12 hours of instruction a week to their full-time students so those learners could be eligible for federal financial aid. Today, the rule requires only 1 day of instruction a week for both face-to-face and distance learning students. Amending this rule encourages many students to enroll in distance learning programs, particularly those that offer quality e-learning courses (Carnevale, 2002), and increased enrollment is imperative to develop cost-effective, quality e-learning courses. Further, on August 1, 2001, the U.S. House Committee on Education and the Workforce encouraged developing and designing quality e-learning courses and programs by passing H.R. 1992, the Internet Equity and Education Act. The amended act eliminated the "50% requirement," which had mandated that institutions of higher education offer 50% of their instruction in a traditional classroom-based learning environment (Distance Learning Resource Network, 2001).

Other important and specific drivers for quality e-learning courses include planning early; effectively providing user-friendly technology delivery systems; building and maintaining a strong e-learning infrastructure; establishing high stan-

dards for developing, designing, and implementing these courses; increasing appropriate and qualitative interactive class activities; providing prompt and constructive feedback to students; focusing on learning outcomes; strengthening student and faculty support systems; and evaluating courses regularly based on solid data and high standards.

BARRIERS TO QUALITY E-LEARNING

Specific institutional barriers to developing quality e-learning instruction in institutions of higher education need to be considered before creating e-learning courses and programs. Although still in the infancy stage of applications, standards, mission, and focus, educating the community electronically and at multiple sites has emerged as a major issue facing community colleges in the new millennium. The cost of developing e-learning courses, hiring and training experienced technical support staff and faculty, technical development, infrastructure, and policy development are considered high (Muilenburg & Berge, 2001; Meyen, 1998). In a survey conducted with 64 technical support staff at the University of Texas (UT) System, 36% of the technical support members expressed dissatisfaction with the appropriated budget to support and manage the university's e-learning courses and programs (Chaurprakobkit, Hale, & Olson, 2002).

Other significant barriers to instituting e-learning courses and programs in higher education include quality control, instructors' attitudes, faculty time and compensation, intellectual property, enrollment procedures, and changing traditional policies (Meyen, 1998; Muilenburg & Berge, 2001). Additionally, adapting curriculums to meet technological communication broadcasts, as well as advancing teaching techniques to incorporate growing students' needs and learning styles, should be addressed nationwide.

There is no question that students who previously would not have considered e-learning are finding that it adapts to their needs. The majority of students also seem able to handle the differing requirements that are imposed on them by this flexible learning mode. However, based on my experience as a former online instructor, many new e-learners are shocked at what it takes to complete quality e-learning courses or degrees. Further barriers that may affect an e-learner's success in a quality e-learning environment include time management, motivation, cultural and personal circumstances, educational background and prior experience, financial aid, level of communication with instructor and peers, technical and administrative support, instructional design and delivery, and level of isolation and loneliness (Galusha, 1997; Muilenburg & Berge, 2001).

Despite the ongoing competition among institutions of higher education, there is a critical need for communication and collaboration in planning high quality e-learning among public and private community colleges and universities located in the same geographical area. Lack of cooperation among colleges and universities is considered an institutional barrier to achieve a successful e-learning environment. Carefully planned coordination should also help institutions share costs and various resources, offer variety, and prevent overlapping e-learning courses and programs. For instance, distance learning has the potential to alleviate many institutions' woes, such as freeing classroom space for an increasing influx of incoming college students, reducing tuition and fees, and increasing access to learning opportunities regardless of location and time.

As the physical distance between campuses takes on less significance, five areas that need greater coordination are student support, human and financial resources, governance, mission, and programs and infrastructure (Dillon & Cintron, 1997). By

concentrating on these areas, students' needs can be effectively met with little confusion or overlap (Dillon & Cintron, 1997). For instance, the need for collaboration among institutions of higher education within the same state is becoming crucial in light of the ongoing technological advancements in software programs and computer equipment. According to Marra and Jonassen (2001), "online courses are often criticized for their emphasis on reproductive learning. We argue that learning outcomes are limited by the lack of pedagogical affordances in the popular course delivery and management systems" (p. 303). To overcome this barrier, community colleges, universities, and educational software companies need to work together to produce well-designed and user-friendly technological tools and products capable of delivering various instructional activities designed for quality e-learning courses.

Strengthening the drivers for, and removing barriers to, quality e-learning experiences requires effective planning and persistent support. Focusing on and constantly evaluating the total experience of institutions of higher education that offer e-learning courses and programs should be given priority by distance learning researchers.

Due to the lack of sufficient resources and the growing demand for quality e-learning courses from on-campus students, local employers, and busy individuals, two-year public institutions of higher education are being affected by e-learning's fast-growing development. Compared to 4-year universities, community colleges have fewer monetary and technological resources. A major concern facing all U.S.-based institutions of higher education is how best to respond to this booming educational opportunity with fewer resources and without decreasing or compromising quality. In response to the boom of e-learning in various educational arenas, the U.S. Congressional Web-based Educa-

tion Commission (2000) called "upon all the public and private sectors to join forces in developing high quality content and applications for online learning" (p. v). Due to rapid changes in technological development and evolving e-learning instructional strategies, the related issues of accreditation, quality standards, policy issues, educational equity, assessment and evaluation, designing courses and programs, integrating curriculum and technology, student needs, and learning styles need to be reexamined to render and deliver e-learning courses of the highest quality.

There are other challenges and tremendous educational and training opportunities presented by this evolving, flexible, and dynamic e-learning approach for policymakers and academic leaders, learners, employers, and local and regional communities (New Dominion Partners, 1998). For instance, issues of access, affordability and productivity must be reevaluated and tackled appropriately and constantly by education leaders and policymakers in all learning institutions (U.S. Congressional Web-based Education Commission, 2000).

SUMMARY

E-learning courses and programs at national institutions of higher education in the United States are on the rise. This Web-based learning mode is in demand mainly by business organizations and busy individuals seeking flexible and quality training and educational opportunities to enhance skills or earn academic or professional certification. The accelerated growth of e-learning has prompted colleges and universities to provide e-learning to those employees and students. It is essential to perform constant and timely evaluation of the quality of e-learning courses offered by distance learning institutions of in the higher education arena, using the most current research on e-learning, personal experience in e-learning, and the experi-

ences of those colleges and universities that are considered leaders in developing and delivering distance learning courses and programs.

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Pitfalls, Perils, and Profound Pleasures of Live E-Learning

Janice Wilson Butler and Michael Sullivan

WIMBA. The name alone was exciting to hear—evoking visions of loud drumbeats as we made a virtual Conga line through my online class, sharing applications and seamlessly collaborating with peers. The reality was quite different: learning to use Wimba was full of challenges as we stretched the technology to perform as advertised. One of several similar programs offering live virtual classrooms, Wimba supports audio, video and application sharing. Breeze and Elluminate are

two other popular programs offering similar features. After evaluating several products, the University of Texas TeleCampus system chose to pilot test Wimba and the challenge began.

In the live e-learning environment, students see a desktop interface that includes a whiteboard for sharing applications, Web sites, and even other desktops. During a Wimba session, students and instructors can use text to chat with the group or individually. A side screen lists current participants and allows students to “raise their



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hands" if they want to speak, interact through online polling, etc. This type of e-learning interface allows faculty and students to build relationships while providing a sense of community as students participate in online classroom activities.

Through the semester, my students struggled weekly to make a "cool tool" something to bridge the isolation students often feel in online courses. Ultimately, despite our complaints about the challenges in using live e-learning tools, when asked if we would recommend that the contract be renewed for another year, our answer was an unequivocal "Yes." Using Wimba, our faculty found this form of live e-learning promotes social interactivity and feelings of connectedness more than any tool previously used. However, despite our unequivocal support for this type of tool, it is worth noting some of the pitfalls and inevitable "workarounds" using Wimba entails if instructors and students are going to revel in its truly bacchanalian pleasures and enhanced learning features the system can provide.

Distance learning students must feel connected. Research indicates that improving online interactivity is critical to ensuring that students stay connected, enjoy the online experience, complete and continue enrolling in online courses. Results from a large-scale ($N = 1,056$) factor analysis study of student barriers to online instruction suggest that the single most important barrier to students learning online is lack of social interaction (Muilenburg & Berge, 2005). Obstacles include lack of interaction with peers or the instructor, feeling that the environment is impersonal, lack of student collaboration online, lack of social context cues, and feeling isolated. Increasing social interaction in online courses can be a major contributor to students' decisions to continue in an online course or program.

While this new tool (Wimba) is exciting and offers incredible potential to increase social interactivity and collaboration, new

users will encounter some challenges as they endeavor to use the features. In the hopes of making your journey less frustrating than ours, we would like to share some experiences that we encountered through the semester while trying to stretch Wimba to become state-of-art.

SOME EARLY PITFALLS

Room size: Evidently, size does matter, at least as far as communications technology is concerned. Early in the semester, we found Wimba works better with a small group as opposed to a group of 12-20 participants. Although we were unable to definitively determine the optimal number of students, all features experienced smaller delays in VoIP when communicating in smaller groups. If you are the type of online instructor who consistently uses polling, "pop" quizzes, "raising hands," etc., as a form of interactivity, then, as a rough guideline, five students in a group is optimal, simply because the existing interface necessitates constantly scrolling up and down to view responses from a larger group of participants. This is a seemingly simple limitation before you have to start scrolling down the interface. Thus, using the polling features, the raising hand feature, and being aware of who is in the room is easiest with five students. Interactivity ran relatively smoothly until we reached about 15 students. With more than 15 participants in the room, a "lecture" type of Wimba environment worked best. Depending on the size of your class, you may find that some of the features sound great, but are just not feasible to use for large classes.

Sharing applications: Sadly, we gave up on sharing applications. The premise is great, but we found when everyone tried to "use" the application, chaos reigned. We spent one hilarious hour with the following conversation bouncing around in the room as we tried to share applications: "Can you see the application?" "No, I just

see a box." "I see the application—no, wait, it disappeared." "I have it now." "Can you see it?" "My screen is bouncing all over the desktop." "I can see somebody's desktop." "My screen is bouncing all over the place, too." "Can anybody see it?" "It just disappeared." Well, you get the idea. We did, however, have a great opportunity to practice talking back and forth, which served us well later on.

We can sum up the solution in three Nike-like words: "Don't do it." While in theory being able to share applications is great, the reality was ineffectual. If you want a group of students to work on a PowerPoint together, have one student maintain control of all the changes while others provide input; yet, even this does not work effectively. Trying to do anything more than this resulted in lost time and frustration on everyone's part.

Presentations: Wimba, like other live e-classroom programs, has a nice feature allowing anyone to upload PowerPoint presentations. PowerPoint presentations can be loaded reasonably quickly; transitioning from one slide to another runs smoothly even with 15 students in the room. The caveat is that you lose all animations, hyperlinks and transitions in a presentation. This can be frustrating when someone wants to jump from the PowerPoint to a Web site and then back to the presentation.

AVOIDING THE PERILS IN AN INTERACTIVE ENVIRONMENT

Wimba worked flawlessly when the instructor led the class, lectured for the allotted time using PowerPoint, then asked for questions. This "sage on the stage" pedagogy of direct instruction was not satisfying and we wanted to find ways to use the power of Wimba for building an interactive and collaborative class. Still, each week, nervously anticipating new technology glitches, we wondered what we would face in Wimba-land. But, each week, we

also become more confident as students bonded, learning to accept and even laugh at the latest technology challenge. Thus, through the semester "playing" with Wimba weekly, we found ways around many pitfalls. By semester's end, class ran more efficiently each week as we made our uneasy peace with Wimba. While nothing can help the learning curve better than just jumping in and "getting your feet wet," perhaps others will benefit from the tactics we developed and have a less frustrating journey using live e-learning tools.

Getting ready: Wimba takes time to set up the first time, so make sure your students go online several hours before the first class to ensure their computers are ready. Students need to set up only once. Active programs, like Instant Messenger, running in the background cause Wimba to slow down tremendously. The interactive features need memory to run effectively; we found that Wimba worked better when everyone restarted their computers just before class and turned off any memory-draining applications running in the background.

Headsets: Everyone must use headsets with microphones, readily available for about 20 dollars. If speakers are used, others in the class will hear a hideous echo. You will know when this happens. In one class, the students complained about the echo. Class halted; we asked who was using speakers; someone "pleaded the fifth" and turned the speakers off. That was the last time we had a problem. Letting students know in advance that this problem can occur will usually prevent it from happening.

Talking: To talk, individuals have to hold down the talk button. This takes getting used to, especially when switching back and forth between Web sites, PowerPoint presentations, the white board, and other applications. We found, however, that by the end of the third session, we were jumping back and forth, remembering to hold down the talk button with ease. It is

also possible to lock the talk feature when you are presenting rather than clicking on the talk button.

Also, the time lag when people are speaking takes getting used to. This delay caused several people to stumble over each other trying to talk, particularly when class was interesting and several students wanted to provide input. Thus, it is a good idea to establish protocol early. When students presented, we let them moderate and call on people in the order of “hands” raised. We moderated during “lecture” time and found a system in which we talked briefly, then asked for questions, and paused to wait for “hands” going up. Since students had to think about what they were going to say, then wait for the time-delay of Wimba, “wait time” had to be extended. A longer pause than you have in a typical classroom took getting used to, but it paid off with opportunities for everyone to participate. The times we ended up stumbling over each other tended to work themselves out much like students in a face-to-face class learn to communicate.

Students have the option of calling in to the Wimba room instead of using the audio feature. Several students used this and also logged into Wimba to participate in the activities. This seemed to work well, although we have no experience with 15 calling in at once, rather than using Wimba audio. One drawback to using this option is that the call incurs long distance charges.

Text chatting during class: A nice feature of Wimba, and something that might deserve more formal research in multimodal communications in virtual classrooms, is the ability to chat with others through text at all times during the session. Students used this tool to ask questions during a presentation without interrupting through audio. The presenter was then able to read comments and respond appropriately without having to stop the presentation. This feature was also useful when someone had technical difficulties and could type in “Can you hear the speaker?”

instead of interrupting class to ask. Students used it to let others know when they had to leave early without disrupting the entire class. They also used chat to alert us when another student was unable to make it to class. We noticed we began to chat during those inevitable down times waiting for presentations or Web sites to load. Although some instructors immediately disable this feature during class, we found the benefits greatly outweighed any disadvantages.

Web sharing: Sharing a Web site with others in the class is a powerful tool. You have three choices: you can share the Web site as a new window, in the content frame, and in the content frame (just for yourself). We recommend sharing the site as a separate window because then you do not lose your content frame if you have a PowerPoint loaded. You can certainly go back and forth, but remember—this will slow things down when presenting. The presenter may want to use the content frame (just for yourself) feature as it reduces the stress of going back and forth to press “Talk.” Currently, this works most quickly if you share only the first page and tell others where to go on the site as you follow links. Several students commented that they preferred having control of the Web site once it was loaded because they could visit the links at their own pace. Please note, loading a Web page takes time (depending on how graphic intensive it is), so everyone must be patient while the page loads onto all desktops.

Presentations: When we turned Wimba over to the students to begin presenting, we began to see the richest interactive experiences. Here are some things we figured out:

- Practice before your first presentation. It takes some experience before becoming comfortable with moderating a presentation. An option to lock talk is available, but let everyone know they need to turn off the TV and put the dog outside

when presenting or run the risk of sharing more about their household than they intend.

- If students have an interactive PowerPoint presentation, make it available before class for others to download; then, individuals can follow along using the downloaded PowerPoint and use hyperlinks as needed. This is certainly not necessary for all presentations, since the straightforward, no-frills PowerPoint works nicely in Wimba.
- Let everyone know there will be down time as you move from one slide to another, pause for others to raise their hands, go to a Web site, or use the whiteboard to emphasize a point. My class fell into calmly waiting for things to happen and we suspect the patience had to do with those first scary days of us all “Wimba-ing” together.

Additional features: Toward the end of the semester, we began looking at additional features. We discovered that we could easily create a quiz and flawlessly administer it at the end of class. Although we used the feature only once, we will be using it more extensively in the future. Quiz results are provided in spreadsheet format which provides a reasonable degree of certainty that students do their own work. “Move users to another room” offers an excellent tool for meeting as a whole, then dividing the class into groups and sending students elsewhere to collaborate on projects. Jokingly, one student commented that she felt like she was teleported to another location.

THE PROFOUND PLEASURES WILL COME

Most students (and one instructor) were apprehensive about using this new technology, so I had no agenda for the first two classes. This took the pressure off as we stumbled around, seemingly wasting almost three hours of class learning to

Wimba. We will continue to do this, even though we are now familiar with the system, since it gives students a chance to make mistakes with no negative consequences.

Whether you are using Wimba or one of the other live e-classroom programs, you will find roughly the same challenges. While very sophisticated products are available, education cannot yet afford an online environment that will provide a “holodeck” experience. However, just 2 years ago, all that was available was an achingly slow no-frills text chat environment, so we have no doubt that in five years we will be collectively laughing at our frustrating beginnings with interactive live e-learning. As our experiences and our solutions grow, so will our demands for better applications, and this increased demand will result in stronger, more effective products in the future.

So where does the pleasure come from? Our last night of class eliminated any doubts we had about the value of using live e-learning. Admittedly, had we experienced that type of class the first time using Wimba, we may have abandoned it entirely. It began as most nights, with students trickling in and talking before class. But, it was a night in which almost every conceivable technology glitch occurred. Sandra was scheduled to present, but her presentation was unavailable in the content folder, although she had uploaded it the day before. So we just had another student present while she attempted to upload again. Sandra kept us informed about the status of her uploading through the private text chat without interrupting the presentation in progress. She was not able to upload her presentation so we asked her to e-mail it to us for uploading. During this interruption, others in the class used the interactive white board to play tic-tac-toe. Some were chatting back and forth using text; still others were using audio to discuss the upcoming final exam. Maria, scheduled to present that evening,

was having technical difficulties at home and used Instant Messenger to let Mark know she was unable to log on. Students, weary of playing tic-tac-toe began drawing collaborative pictures on the white board. Mark used text chat to tell us that Maria was having technical challenges and would just e-mail her presentation to everyone after class.

We finally got Sandra's PowerPoint by e-mail and uploaded it into Wimba. Since it was uploaded from our computer, she could not move to the next slide. So, much like a face-to-face presentation, she presented and an instructor clicked to the next slide. When Sandra began, the white board activities and chatting stopped as students listened to her share some of the activities she uses in her early childhood classroom. Despite much shuffling and down time, her voice rang out clearly as she discussed one slide. "I sing this song to the tune of Three Blind Mice." And she sang to all of us:

"It's two o'clock, two o'clock

Short hand on the two. Long hand on the twelve.

60 minutes go by and the time will change.

We'll move the short hand and rearrange it to three o'clock, three o'clock."

The silence after her song did not just come from a Wimba time lag. We collectively experienced a depth of sharing inter-

actively online that could only occur with live e-learning. That evening, our class had all the components that students say they miss in online classes with a high level of social interaction that typically occurs only in a face-to-face class. Restless students played games when the technology failed, they "wrote notes" to each other by texting between presentations, they stopped talking to listen when others presented, and they experienced a deeply emotional tug when Sandra sang for all of us—something I question she would have felt comfortable doing in front of a face-to-face class.

At the end of the course, I asked students for feedback on Wimba. They all admitted it was challenging and frustrating at first, but were glad that we persisted in using it each week. Some had already requested that a live e-learning program be made available at their schools. Several mentioned the power of Sandra's presentation the last night of class. Without exception, students said it was a positive component of the class and recommended using it in every online course. If you plan to continue teaching online, we strongly urge you to begin using live e-learning in your courses with this type of tool.

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Education Leaders Perspectives

Pros and Cons of Distance Education in a Small Caribbean Island

Noverene Taylor

INTRODUCTION

Due to the rapid advance in computer technology and Internet access, the landscape of education has changed drastically over the years. Because of this dramatic change, many educational institutions today have realized that teaching, and learning are no longer confined to delivery models such as face-to face instruction, and are in the process or restructuring what goes on inside

their school walls. As part of their restructuring effort, distance education plays an important role. Owing to the myriad of benefits for K-12 education offered by distance learning technologies, schools are using these technologies to reach all students, especially those in remote locations, and provide them with challenging and appropriate educational experiences.

This article examines education leaders' perspectives regarding the advantages and disadvantages of distance education in the Turks and Caicos Islands. In order to understand these, it is important that readers have a basic understanding of the islands' geography, people, and education.



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THE TURKS AND CAICOS ISLANDS

The Turks and Caicos Islands consist of eight inhabited islands and about 40 cays. The islands are located at the southeastern end of the Bahamas chain, 575 miles southeast of Miami, and 90 miles north of the island of Hispaniola. The islands are accessible by aeroplanes and boats. The native people are of African descent. The expatriate community of British, American, French, Canadian, Haitians, Dominicans, and Jamaicans gives the islands some international influences.

Education is an important feature of the Turks and Caicos Islands and, as such, is

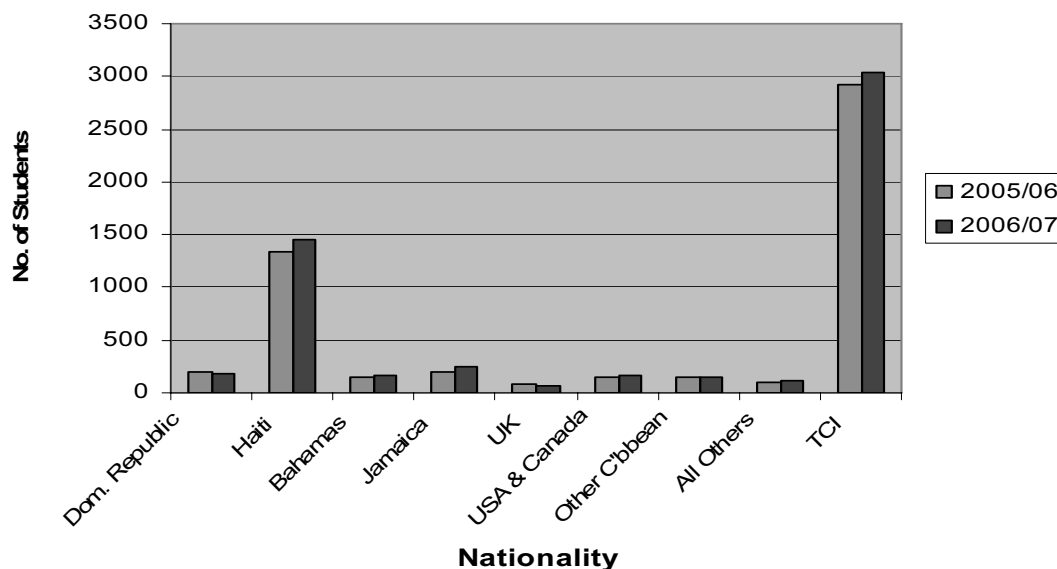
provided for students up to the secondary level on most of the islands. With a student population of approximately 6,000 students, enrollment data shows that close to 3,000 students are from culturally diverse backgrounds for the 2006-2007 school year. Similar trends in enrollment were also observed for the 2005-2006 school year. Students completing their primary school education sit for the Grade Six Achievement Test (GSAT), while those after five years of secondary school sit for the Caribbean Secondary Education Certificate (CSEC) examinations.

Students who have completed elementary education and do not have immediate access to traditional high school would normally relocate to one of the other islands where the necessary facilities for education are provided. With only two community colleges on these islands, the same can be said for students who have finished high school and want to access college-level education. With the hassle of relocation, costly airline tickets, and the

islands being multicultural in nature, distance education technologies can offer a great deal of flexibility, and convenience as to when, where, and how education is distributed to students at the elementary school, high school, and community college in the Turks and Caicos Islands.

DEFINING DISTANCE EDUCATION

It is important that definitions that are associated with this approach to instruction be examined so that readers will have a better understanding of the pros and cons of distance education in the Turks and Caicos Islands. Distance education can be defined as: "institution based formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors" (Simonson, 2003, as cited in, Simonson, Smaldino, Albright, & Zvacek, 2006, p. 32). Traditionally, this includes a variety of activities from correspondence program using postal services;



Source: Ministry of Education, Youth, Sports, and Gender Affairs (2007).

Figure 1. Enrollment by nationality in both government and private schools for the school years 2005/2006 and 2006/2007.

courses broadcasted using the radio, distributed video lectures, or other materials to enhance instruction. Today, with the rapid increase in technology, more attention is given to online distance education.

ONLINE DISTANCE EDUCATION

Distance education has been in existence for at least 160 years (Simonson et al., 2006), and the medium has changed from paper-and-pencil correspondence study to real-time online education. The development of this "subfield" of distance education has become a central focus of the field of education due to its flexibility, affordability, convenience, and attractiveness. It is distinguished from other previous paradigms of distance education by its ability to create critical communities of inquiry (Garrison, Anderson, & Archer, 2003). Many may still use distance education and online education interchangeably, but it is believed that the distinction is useful in helping us to see the development of this "subfield" of distance education in which technologies have played a major role.

Online education is delivered over the Internet. It may be synchronous, in which the teacher and the student interact with each other in "real time." For example, with two-way videoconferences, students interact with "live" video of an instructor. Telephone conversations are also considered synchronous. Asynchronous delivery, on the other hand, does not take place simultaneously. In this case, the teacher may deliver the instruction using video, discussion board postings, Web sites, or other means, and the students respond at a later time. While adult students are benefiting from online distance education programs, the young and traditional students have increasingly begun to realize the new opportunities that are available to increase their academic achievement.

DISTANCE EDUCATION VERSUS TRADITIONAL INSTRUCTION

Distance education's quality is often compared with that of traditional instruction. Most recent reports have shown that there are no significant difference between online learning and traditional instruction in terms of student grades, test scores, and other measures of student achievement (Worley, 2000). Phipps and Merisotis (1999) completed a review of distance education's effectiveness and concluded that no matter what technology is used, distance education courses are as favourable as traditional face-to-face learning.

ADVANTAGES OF DISTANCE EDUCATION IN THE TURKS AND CAICOS ISLANDS

In the Turks and Caicos Islands (TCI), education leaders consider some of the key strengths of distance education to rest in its capacity to provide "anytime" and "anywhere" education to students. According to the views expressed by some of the education leaders, distance education affords many adults on these islands the opportunity to access education that would not otherwise be possible.

The director of education, Beatrice Fulford, who is presently pursuing her doctoral degree, indicated that distance education is a great learning opportunity for individuals who have jobs and families, and do not want to interrupt their job to go back to school but really want to pursue higher education. While distance education is different from the face-to face traditional setting, she noted that it is very convenient, flexible, and affordable. Convenience suggests that students do not have to spend time commuting to classes during the week or at a particular time of the day. As a distant learning student, she has great freedom to study at times that suit her, be it early morning or middle of the night, and completes her assignments

when the time is convenient, whether during lunch hours or after work in the convenience of her home.

Thomas Joyner (personal communication, March 20, 2007), the education psychologist, stated that, in these islands, distance education is of tremendous benefit to adult learners who have difficult schedules because they can learn at their own pace and time. In other words, distance learners control their learning environment; school is brought to the student, and not the student to school. Joyner also noted that certain learners, for example those who are shy, will find distance education suitable to meeting their educational needs. Distance learning, he said, eliminates the need for some students to feel judged or embarrassed by their classmates.

Distance education can be a worthwhile experience for learners. It can provide convenient locations for both students and instructors because many of the technologies, such as the Internet, videotape, and telephone, can be easily accessed at home, noted the education officer for the literacy program, Kaydeen Miles. She also pointed out that when you look at the benefits of learning new technological skills in order to adequately prepare yourself for the virtual environment, distance learners are at an advantage above the traditional student. She noted that distance education offers great potential for alleviating educational inequity in these islands because the islands are multicultural in nature. Distance education she believes, can also be less costly than that of traditional education. Books, course content provided by the instructor, and other resources are only a click away.

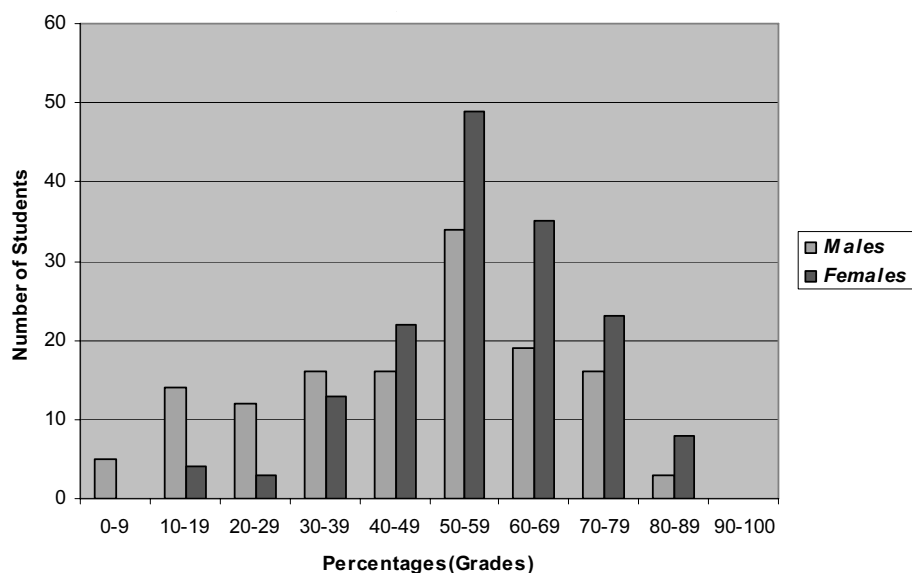
In order for students to move on to high school, they have to achieve an average of 50% or more on the Grade Six Achievement Test. When results for the June 2006 examination were analyzed, it was found that of the 292 students who sat the exam, approximately 188 students received a

score of 50% or more. This clearly indicates that these students could have benefited from distance education, which could be used as a legitimate teaching method to provide appropriate instruction for students to enhance their academic performance. Students who did not achieve a score of up to 50% might not necessarily be weak students. They could be students with different learning styles, needs, and abilities. Placed in a different learning environment, such as a distance learning setting, where they can work at their own pace, they could show marked improvement.

Pass marks for the Caribbean Secondary Education Certificate (CSEC) examinations range from grade one to three, with one being the highest and three the lowest. On the May/June 2006 examinations, 88 students received a grade one, 226 students received a grade two, and 338 students received a grade three. Therefore, if these students were provided with a distance learning environment, where they can collaborate and work together, and be more actively involved in their own learning, the possibility exists that the number of students who receive a grade one could increase, thereby decreasing the number of students who receive a grade three.

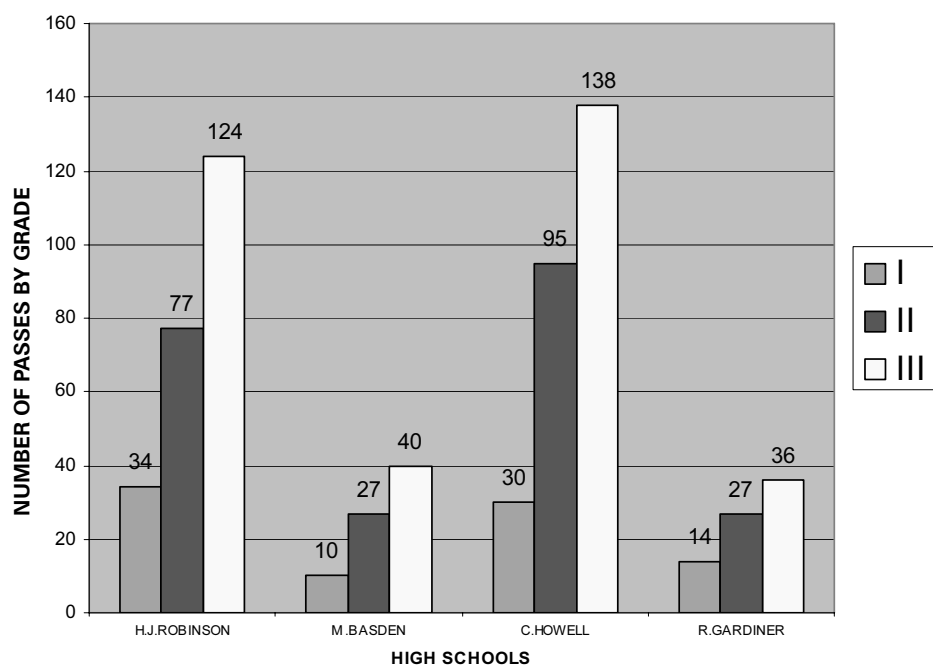
Several teachers who were interviewed agreed that, while adult learners are using distance education programs to achieve higher education, in the Turks and Caicos Islands, elementary school students, high school students, and the traditional college students should have access to the new opportunities presented by distance education. Indeed, distance learning represents a network of technologies that can connect the public school systems, and provide greater motivation, reduced learning time, and higher achievements, among others.

The community college offers associate degrees to students who have completed high school education. Distance education could allow students studying at this level



Source: Ministry of Education, Youth, Sports, and Gender Affairs (2007).

Figure 2. Grade Six Achievement Test Results for June 2006 (males = 135, females = 157).



Source: Ministry of Education, Youth, Sports, and Gender Affairs (2007).

Figure 3. Caribbean Secondary Education Certification passes by grade and school for May/June 2006.

to pursue courses that are not available on these islands. This educational approach could also address growing populations, limited space, and permit students who have failed a course to take it again. This could eliminate the hassle of getting student visas, and transportation to and from campuses. In addition, students would not have to worry about housing accommodation or the expense of airline tickets to return home because they would not have to go overseas to study. And even if they do, traveling to the institutions campus would not be for any extended period. Distance education is not normally tailored around the schedules of traditional semester schedules. Therefore, students would be more flexible with their time in completing courses.

In a multicultural society where students may have language challenges, the distance education environment would be quite appropriate to make them feel more comfortable and relaxed using the English language without the fear of being embarrassed or judged by their peers. Additionally, distance education can afford traditional teachers the opportunity to move away from a mechanistic style of teaching where knowledge is imparted by the teacher to students, to a more active and creative process, one in which teachers design and facilitate activities that are geared towards students using technology to generate, discover, and build their own framework of knowledge collaboratively. Montgomery (1998) argues that not all students learn the same way, and so using multimedia allows students to take an active role in learning in ways that the traditional classroom cannot afford. This implies that distance education environments can be designed in ways that meet each student's needs.

Students' interisland interaction is limited to inter-island school events, where only the competitors from each school get to interact with each other. Having established a platform for distance education,

this would open up the gateway for complete interislands interaction. All of the schools in these islands would be able to interact with each other regardless of geographical location. The adoption of distance education here in the Turks and Caicos Islands, at the elementary, high school, and community college levels could also afford students the opportunity to interact with other students across the globe. Imagine students collaborating with each other, sharing research ideas, and forming study groups for the Grade Six Achievement Test or the Caribbean Secondary Education Certificate. This could be a great motivator and a wonderful learning experience!

Teachers believe that they could work collaboratively in developing online courses for students at the different grade levels and share resources for the benefit of the students. This could be seen as an advantage wherein, the teachers would not have to develop courses on their own. The design of distance education courses does take time, and much effort, and must be done properly for students to be successful.

Through the technologies of distance education, students would be at an advantage in interacting with first world countries classrooms that may be using cutting-edge technologies. Furthermore, the Turks and Caicos Islands, being a third world country, could be brought to modernization, in order to become more productive and inventive.

DISADVANTAGES OF DISTANCE EDUCATION IN THE TURKS AND CAICOS ISLANDS

Lack of vision and financial resources may be considered two of the major factors that can disadvantage elementary school, secondary school, and community college students from distance education opportunities on these islands. Other drawbacks include, but are not limited to, lack of face

to face interaction, academic dishonesty, no campus atmosphere, stigma attached, and the requirement of new skills for both the instructor and student.

The director pointed out that, with her experience in a distance education environment, she believes that the "distance" aspect of distance education seems to have taken away much of the social interaction that is present in traditional instruction. She noted that distance learning may not be for everyone. Those who do not have a strong desire to learn on their own can become easily distracted, playing online games such as pool or simply chatting with friends. In addition, when a student needs assistance with a particular assignment, it can be very difficult for the instructor to assist without being physically present. A student working alone at times can also feel isolated and depressed. Therefore, it is important that distance learners feel connected one way or another to the learning environment.

The director stated that some students are at a disadvantage when participating in certain activities for their distance education program. For example, for her program of study, the university offers weekly and monthly on-campus workshops and seminars that are beneficial to her professional development. But as a student in the distance education environment she does not have these opportunities readily available at her "fingertips." She mentioned that even though students are able to interact with people across the globe, the interaction is not necessarily the same as when you are in a traditional setting. Mediated communication takes away a lot of cues and personalized attention. Fulford also stated that some employers might not value certification through distance education. They tend to believe that the reputation of distance education is questionable. Therefore, students pursuing distance education courses must ensure that the course or program is accredited by a valid educational agency.

According to Joyner (personal communication, March 20, 2007), when students pursue online courses, it can be very hard to detect cheating. In the privacy of one's home students can easily receive an A grade by submitting another student's work. Hence, this is a matter that must be dealt with by teachers who are considering teaching at a distance. Joyner added that teachers must ensure that instruction is designed so that each student submits authentic work.

Miles, the literacy officer, noted that if you are afraid of change or learning new technology skills, then online distance education might not be suitable for you. She further claimed that if the instructor is not adequately prepared to deal with the virtual classroom, learners can become frustrated and drop the course. Therefore, in order for distance education to be successful in these islands, technical barriers would have to be a nonissue.

Some teachers believe that the lack of exposure to distance education settings would put some students at a disadvantage. When asked the reason for drawing such conclusion, the teachers simply stated that some students are already accustomed to the traditional classroom, and so exposing them to a faceless classroom environment could prove difficult. They believe that the transition from a face-to-face classroom to a faceless classroom might not be an easy task for some students.

The teachers further indicated that students in the current school system who are not yet exposed to the technological skills needed to succeed in a virtual environment would have to be properly trained. Teachers would have to be equipped technically and be trained to develop online courses and implement them accordingly. Institutions would have to acquire and install the needed equipment, course management systems, and other resources required. This could be very costly for the institutions, especially those operating on a tight budget. The success of any distance

education program is dependent on the efficiency and effectiveness of a distance instructor and how prepared students are for the virtual environment. Therefore, if adequate training and support are not provided, in the initial stage of participating in distance education programs the attrition rate could be very high.

It is also unrealistic to expect young children to attend distance education courses at their own time and convenience. Someone must be able to supervise them. Elementary school students would not have recess time to socialize and play, and of course, social development is vital to the development of the whole child, especially when preparing students to survive in a highly socialized work environment. Not being able to attend important workshops, seminars, and special functions on campus would disadvantage some distance learners, especially those students who are just leaving high school.

Students who are weaker academically may be at a disadvantage in the distance learning environment. Distance learners have to be self-directed and intrinsically motivated. They also have to have good reading and comprehension skills. The weaker students may not be disciplined enough to use their own initiative to be successful. These are usually the students who require face-to-face interaction in the traditional classroom setting. Therefore, online education may not be for all types of learners.

Being in a third world environment, access to computers may be difficult on the part of some students. This would certainly put some of these students at a disadvantage where distance education is concerned. The monthly cost of Internet access might not be affordable to some students.

Tradition affects a wide cross-section of society. Most recent research demonstrates that there is no significant difference in terms of students' course grades, rating of

course content and the instructor, and other outcomes. Therefore, it is incumbent of educators to make it clear to parents, and the wider community that distance education has been proven to be just as effective as traditional face-to-face instruction. One point is of paramount importance; if distance education is successfully implemented at all levels of the education system in these islands, it will have a promising future!

SUMMARY AND CONCLUSION

Distance education can be just as effective as any other category of instruction here in the Turks and Caicos Islands because when used effectively, learning occurs and knowledge is gained, which is the objective of teaching. Distance education is also cost effective, flexible, and convenient for many adult learners on these islands. Even though distance learning courses originally catered to nontraditional students as its target group, students at the elementary, high school, and community college levels can benefit from the new opportunities provided by distance education. The teacher's ability to create an interactive environment is vital for quality online education. Not all students may benefit from distance learning opportunities. Students who are intrinsically motivated and self-directed are most likely to succeed. Distance education may create feelings of isolation, and depression for some students. However, the advantages of distance learning seem to far outweigh the disadvantages. Therefore, by carefully identifying, and dealing with drawbacks that are within their influence, institutions on these islands may very well find that such actions are sufficient to provide students with distance education opportunities so that they can become contributing citizens in a global, diverse, and technologically advanced society.

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Web 2.0

New Tools for Distance Learning

Christopher Essex

INTRODUCTION

One of the challenges for distance educators is the need to keep up with the steady stream of technological innovations. Yet, this is also one of the great rewards of our positions as well. The fact that we are doing our teaching online means that we can implement these tools immediately and substantially with our students, if we deem them useful and fitting with our instructional goals. This is an exciting time for Internet-based technology, the era of Web 2.0, we are told, and we are provided with a wide range of new tools, tools with a user- (or student-)

focused nature that fits well with the social constructivist ideals that many of us share.

DISTANCE LEARNING: FROM PRE-WEB TO WEB 2.0

The tools we use for distance learning have developed over the past decade, since I started teaching online, and they have developed in the distinct direction of student-centeredness and group collaboration. When I started in my position at Indiana University in 1994, we were still using the correspondence model, shipping out preassembled texts with articles, assignments, and course documentation. Other than a choice (sometimes) between articles selected by the instructor, or an option about how to respond to an article, the student was essentially trapped within the framework that the instructor had created. Oh, if we had a student who was especially creative, we might allow for a variation in the type of final paper for the course, but that was about it in terms of customizability. That was the pre-Web world.

Internet technologies changed distance learning to a huge degree. Instead of relying on a course packet that had been put together months or years ago, we could assign our students the most up-to-date information from the Web. Because of e-mail, listservs, and chat, we could communicate much more quickly and easily with our students, and they could now contact each other. Much greater student choice in readings and activities was now



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possible, and students could work together on assignments. We adopted learning management systems (LMS) like Blackboard and WebCT, which gave us communication tools, gradebooks, quizzing and testing features, and all sorts of student statistics. This, we now realize, was the Web 1.0 world. Much more flexibility, increased communication, and more student empowerment. Still, however, the structure was essentially teacher-centered. The instructor chose what content to put into the LMS and how to arrange it, which features to use, and which to ignore.

The Web 2.0 world is the one we and our students now live in. The Web in the past had been divided between authors and readers. While authorship status was fairly easy and inexpensive to obtain, that just meant another author had been created. With Web 2.0, the dividing line between the two statuses has been erased. Everyone can be an author, even on the same document. Web 2.0 tools allow everyone access to the means of knowledge production. This distinction between authors and readers is now beginning to be shown in our distance education courses, as the distinction between teacher and student is lessened.

Social constructivist theory (Vygotsky, 1970) proposes that we learn best in collaborative environments, in which students' ideas encounter and are enriched by those of other students. This is, of course, in contrast with a traditional, teacher-led model of instruction. Instead, most of the tools provided to us in the past have been instructor-centered, top-down systems, including our much-vaunted learning management systems. O'Hear (2005) noted that

Like the web itself, the early promise of e-learning—that of empowerment—has not been fully realised. The experience of e-learning for many has been no more than a hand-out published online, coupled with a simple multiple-choice quiz. Hardly inspiring, let alone empowering.

But by using these new web services, e-learning has the potential to become far more personal, social and flexible. (para. 3)

In this article, I will describe my experiences with the most popular of "these new web services": podcasts, blogs, and wikis.

WEB 2.0 TOOLS FOR DISTANCE LEARNING

In the Web 1.0 world of distance learning, the discussion forum, and the chat room to a lesser degree, were the heart of my courses. This was a tremendous improvement over just receiving typed papers from my students in the mail, of course. But the past 2 years have seen another sea change in the way I teach. Adopting these Web 2.0 tools has made teaching online a qualitatively different experience, and re-energized me as an instructor. From podcasting to blogging to using wikis, these Web-based systems have all had a positive impact on the distance learning experience for both teacher and students.

PODCASTING

Podcasting is the Web 2.0 technology that has gotten the most press. Podcasts are digital audio files, usually MP3s or MP4s, that are made available online, often by free subscription. Despite their name, they do not require an Apple iPod to be received; they can be played on almost all computers and portable digital audio players, and many cell phones and PDAs. For most instructors, a quick look through Apple's iTunes podcast directory (part of the iTunes Store in the iTunes program) will be enough to discover a large number of educational podcasts that could be incorporated into one's course. For those wishing to look further afield, Podcast Alley's directory (http://www.podcastalley.com/podcast_genres.php?pod_genre_id=7) lists 1,320 education-related podcast series, such as "12 Byzantine Rulers," "Grammar Girl's

Quick and Dirty Tips for Better Writing” and “ShakespeareCast.”

Even with all these existing podcasts, you may not find exactly the content you are looking for. Fortunately, podcasts are easy and inexpensive to make. Free software such as Audacity (for Windows, Mac, and other platforms; <http://audacity.sourceforge.net/>) can be used to create the audio files, and the RSS (Really Simple Syndication) file necessary for subscription service can be created with any text editor. Many laptop computers now have microphones built in, but if you need one, a quality microphone such as Blue Microphones’ Snowball (<http://www.bluemic.com>), my personal choice for its sound and retro-cool design, can be found for around a hundred dollars. You undoubtedly already have headphones and speakers.

“Coursecasting,” the recording of lectures and making them available in audio form online, is being implemented at many colleges and universities (Read, 2005). My university supplies the iStream service (<http://www.indiana.edu/~video/stream/is.php>) which, despite its name, also supports downloadable podcasts. Our rival, Purdue, has its Boilercast system (<http://www.itap.purdue.edu/tlt/Boiler-Cast/>). Coursecasts provide raw, unedited documentation of what happened during the class session, from the perspective of the microphone at the front of the room. If they watched a movie, you hear the soundtrack; if they had small-group discussions, you hear distant mumbles. As a distance educator, you can record lectures to be uploaded into these systems for your students. This just one way of using podcasts, though. I’ve used digital audio files to supplement or enrich course material, to capture interviews with guest experts, and to provide feedback to students. The latter has been particularly well-received by my distance students. They like actually hearing my voice as I comment on their work, and it allows me to provide

them with fuller responses to their work, as I am freed from the tedium and effort of typing it. Also, the danger of being misunderstood is lessened, as the full intonations of my voice are captured. No more emoticons (smiley faces)!

BLOGGING

Blogs (archaically called Web-logs) are a specific kind of Web site. They are designed for putting up content quickly, easily, and regularly—posting on the go. If I have to update my regular Web sites, I have to fire up Dreamweaver (a slow process in itself), find the file, make the changes, then preview the changes to make sure I didn’t mess something up, then use the FTP functionality to upload the changed pages. And I had to learn Dreamweaver’s complicated interface (and HTML) in the first place to do that. With a blog, you log in, type, and click submit. Not much different than making a forum posting, no knowledge of coding required, and it’s free! I use Blogger (Figure 1; <http://www.blogger.com>), but there are other blogging sites, too, like LiveJournal (<http://www.livejournal.com>) and WordPress (<http://www.wordpress.com>). All are easy to set up and get started with. Class Blogmeister (<http://classblogmeister.com/>) is specifically developed for educational use, “explicitly designed with teachers and students in mind, where the teacher can evaluate, comment on, and finally publish students’ blog articles in a controlled environment” (Warlick, n.d., para. 4). I haven’t tried it out, but it seems promising.

My experience in podcasting led naturally to blogging. By this, I mean I needed some place to put the citations mentioned in my podcasts, citations both to print and to online sources. I expect that my distance students are listening to the podcasts in many places where they may not be able to stop and take note of a citation; the car on the ride home from work, the treadmill, the kitchen. Any information that needs to

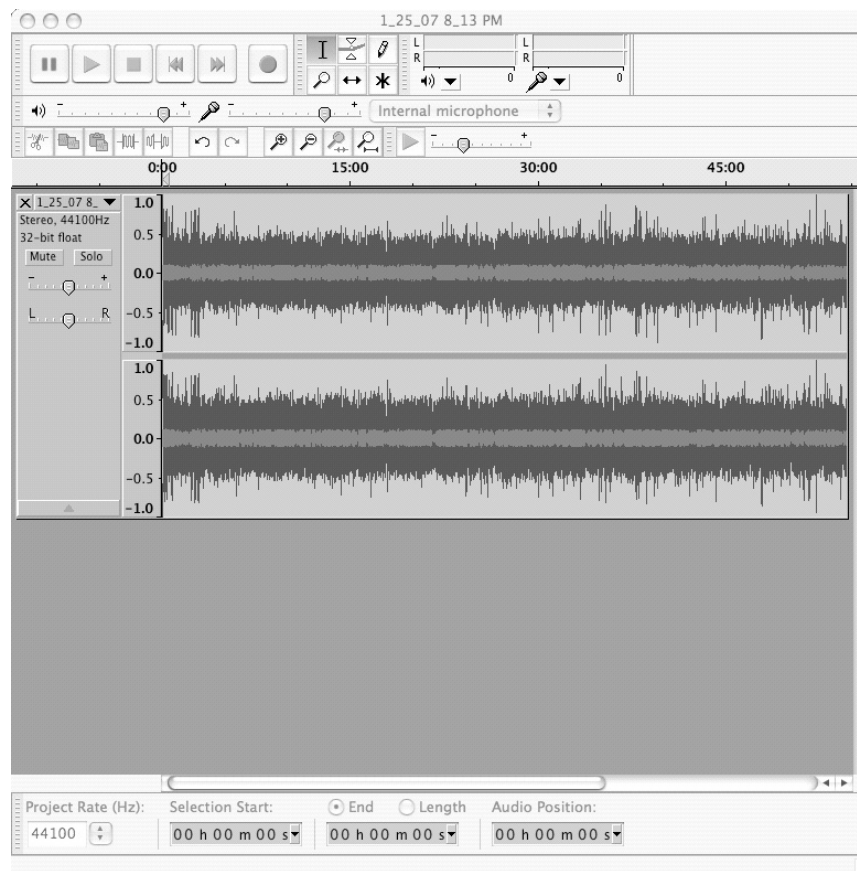


Figure 1. Free software such as Audacity can be used to create audio files for podcasts.

be written down, I provide to them in the blog; it's an important companion to the podcast. I can also provide extra information and additional resources that I didn't include in the podcast, for time or forgetfulness or whatever reason.

You can choose whether or not you want to allow comments on your blog, and (sometimes, depending on the system) who is allowed access to it; just your students—or the world? Blogs are organized in reverse chronological order, with your latest postings always up front. And, like podcasts, students can subscribe to the blog, so that it is delivered regularly to an RSS-capable Web browser, such as Internet Explorer 7 or Firefox. A new development,

microblogs, such as Twitter (<http://www.twitter.com>), allow users to post up-to-the-minute updates as to what conference presentation they are attending, or which Starbucks they are at. Literally not much more than a sentence or two.

Student-created blogs have the possibility of changing the distance learning classroom dynamic, and can help to create an authentic learning community. The fact that the majority of blogs are essentially online journals or diaries, and often revolve around the personal issues of the blogger's life, has influenced how they are used in courses. As Downes (2006) has noted,

Blogging is very different from traditionally assigned learning content. It is much less formal. It is written from a personal point of view, in a personal voice. Students' blog posts are often about something from their own range of interests, rather than on a course topic or assigned project. More importantly, what happens when students blog, and read reach others' blogs, is that a network of interactions forms—much like a social network, and much like Wenger's [Wenger, n.d.] community of practice. (para. 30)

For example, one of my online students, an American teaching at a school in Japan, would post about the course topics and readings, but also, and even more importantly, he shared photos and stories about his experiences being a teacher in a very different type of school culture than he had experienced in the United States. The other students, most of them Hoosiers teaching in local schools, learned a lot through his blog—as did I. Another, a reading teacher, discussed early childhood writing through examples of her students' writing both through photographs of the students at work and of the work itself. It was a glimpse inside her classroom for those of us who couldn't physically be there, a much richer experience than simply reading a paper from her would have been.

As for my own blog, "Teach with Tech," (Figure 2; <http://teachwtech.blogspot.com>) it plays an important role in my online courses. I frequently point my students towards it, either to the current entry or an archived posting. I have a number of blog entries that provide links to resources and my commentary. In the past, I would have just posted this information in our learning management system, but why not share it with the rest of the world? I am also hoping, perhaps idealistically, that the students will get in the habit of visiting my blog and will continue to do so even after the course is over, so that it will continue to be a professional development resource to them. I am also inviting others into our

classroom in this way, and I'll admit it, it functions as a bit of advertising for this elective course—I have a prominent link to the course Web site on the blog.

Of course, I'm not the only academic with a publicly available blog. Back in 2003, the *Chronicle of Higher Education* had an article, "Scholars Who Blog" (Glenn, 2003), which cited 93 such blogs. A look today at the blog directory Technorati (<http://www.technorati.com>) finds 256 blogs with the tag "university professor" and undoubtedly this is not a complete list. Besides being a resource for students and others interested in the subject being discussed, a blog becomes another way to network, to communicate with colleagues.

WIKIS

Wikis perhaps best exemplify the social constructivist nature of Web 2.0 programs. Named after a moderately quick mode of bus transportation in Hawaii (*wiki* meaning "fast" in the local language) (Wiki, 2007), wikis are collaborative environments by definition, allowing multiple users to work on the same documents, though not at precisely the same time (the pages are locked when they are being edited by another user). The most famous example of this is, of course, Wikipedia (<http://www.wikipedia.org>), a collaboratively created encyclopedia, but there are many others, including Wiktionary (http://en.wiktionary.org/wiki/Main_Page), and Wikia (<http://www.wikia.com>), which provides a site for self-proposed "subject matter experts" on a given topic, such as *Hogan's Heroes* or breastfeeding, to create collaborative documents on the area of their special interest. You can also start a wiki from scratch using free tools such as PBwiki (<http://www.pbwiki.com>) and WikiDot (<http://www.wikidot.com/>).

Many people, I've found, when they first hear of a system that allows for anyone to write on a document, recoil in fear. "My document! My precious document!" But the fact that each individual's contribution



Figure 2. My blog, "Teach with Tech," on Blogger.

is kept track of, and that it is so easy to compare versions and revert to previous versions of wiki documents, usually quickly helps to calm instructor worries about vandalism and inappropriate content.

Educational uses for wikis include: providing a place for brainstorming, deciding on a schedule of activities, or developing definitions of roles and/or terms. I have used wikis to write conference proposals and journal articles with colleagues. A colleague of mine, Faridah Pawan, uses the wiki tool in our LMS to provide a consensus-based record of each class discussion in

her course. The advantage of using a wiki for this sort of activity is that any student can help to flesh out the record, or to provide a different perspective on what occurred. I'm seriously considering doing this next semester—assigning one student to start a summary of our Sunday night chat each week, and inviting in the rest of the students to contribute.

THE FUTURE

Speaking of the future, the next step in my distance teaching will involve taking my

online classroom into a virtual world. Virtual online worlds have been around for decades, and remain extremely popular in the gaming world. You may have heard of the massively multiplayer online role-playing game *World of Warcraft* (WoW), a huge online world, open 24/7, in which players see themselves as avatars, 3D representations of themselves within the game, who can interact with others and work collaboratively on missions. The system has 8.5 million registered members worldwide (*World of Warcraft*, 2007). But WoW is distinctively Web 1.0 in that everything in the world is created by the authors of the game. *Second Life* (<http://www.secondlife.com>), on the other hand, is a multiuser virtual environment (MUVE), which is at first very similar to WoW, but with an important difference—players can modify their avatars and bring new objects into the world. There is also no game format to structure their activities. They are free to roam and explore this new world, to interact with people and to see how things work, much as they did when they were crawling along the floor as babies in the real world.

My colleague, Sarah Robbins (http://en.wikipedia.org/wiki/Sarah_Robbins), teaches freshman composition at Ball State within the *Second Life* environment, but it's a very different experience from the book-bound freshman comp I once taught. As the *New York Times* (Lagorio, 2007) explained, "Ms. Robbins doesn't use *Second Life* to impart textbook knowledge; she sends her students out to interact with other inhabitants to get them thinking and writing 'about our own identity, and respecting the identities of others, and exploring the look of our own avatar.' A 500-word blog is due weekly." As a distance educator, I look forward to exploring these virtual environments with my students. I see immediate possibilities for using a virtual landscape. I might have my education students create their ideal technology-enhanced classroom in the world.

Then we could all walk around in each one of them and discuss how they would be utilized. Also, the common complaint of distance students—that they don't get to "know each other" as well as in a face-to-face classroom—might be answered in an important way through the use of avatars. It might even tell us more about each other, to see how we have chosen to present ourselves, than just seeing our flesh-and-blood faces would. Fascinating possibilities!

CONCLUSION

Even though it has taken extra time and effort, the incorporation of Web 2.0 technologies into my teaching has been very beneficial. It has allowed for more student input and greater options for activities. While I don't claim to have exhausted the possibilities for integrating Web 2.0 into my teaching (there are many other Web 2.0 applications than I have mentioned here), I hope that reading about my "baby steps" into these new technologies will be of use to others.

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Christopher Essex, frequent contributor to *Distance Learning* and to the *Quarterly Review of Distance Education*, passed away on April 17, 2007. He is memorialized at: <http://site.educ.indiana.edu/ChrisEssex/tabid/5390/Default.aspx>

An Overview of Distance Library Services at Nova Southeastern University's Main Library

Arlene Batson-George

BACKGROUND

Nova Southeastern University (NSU), located in Fort Lauderdale, Florida, is the largest private university in the Southeastern part of the United States, and the sixth largest nonprofit, independent university in the nation (NSU, 2007b). Total student enrollment for Fall 2006 was 25,960 (NSU, 2007c). The university offers associate, bachelor,

master, specialist, doctoral, and first-professional degrees in education, business, medicine, law, psychology, marine sciences, and a variety of other fields. The university has so far produced over 85,000 alumni (NSU, 2007b).

NSU is rapidly gaining recognition as a pioneer and leader in distance education, particularly at the graduate level. NSU was the first institution of higher education in the nation to offer graduate programs in an online format (NSU, 2007b). "NSU has been offering online programs and programs with an online component since 1983. NSU was also the first to use the Unix system to host online courses, and one of the first to use the Internet to support instruction" (NSU, 2007b, Distance Education at NSU section, para. 1). The majority of NSU's academic programs currently offer courses online in addition to the traditional on-campus courses (Quinlan & Tuñón, 2004). In addition to online courses, NSU administers many of its programs through academic centers and sites located across the country and in international locations such as the Caribbean, Greece, Mexico, and the United Kingdom (NSU, 2007b).



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THE MAIN LIBRARY

The main library at Nova Southeastern University is the Alvin Sherman Library, Research, and Information Technology Center. The library officially opened in December 2001 and is the outcome of a collaboration between the county (Broward) and the university. As a result, the library is a joint-use facility that offers an assortment of public and academic services to members of the NSU community and Broward County (Lubans, 2002). At 325,000 square feet, the library is the largest library building in the state of Florida. The high tech-building is open more than 100 hours each week, offers wireless service, a café, study rooms, fully equipped electronic classrooms, and numerous print and online resources (Quinlan & Tuñón, 2004). Other libraries at NSU include the Health Professions Division Library, the Shepard Broad Law Library and Technology Center, and the William S. Richardson Ocean Sciences Library.

The library's collections and resources are impressive. Currently, the collection consists of over 700,000 volumes with room in the building for 1.4 million (Marie, 2007; NSU, 2007a). Users are also able to check out laptop computers to use in the building. The library has 700 computer stations, subscriptions to more than 200 online databases, 20 classroom labs, seats in the building to accommodate as many as 1,000 users, conference/meeting rooms, a gallery for displaying art and other exhibits, and a large parking garage (Marie; NSU). Numerous events open to the public are held in the library including book discussions, library and technology classes, specialized exhibits, readings by authors, book fairs, craft presentations, programs for children, student orientations, and more (NSU, 2007a).

DISTANCE LIBRARY SERVICES AT THE MAIN LIBRARY

The library makes a variety of services available to NSU's distance students. Stu-

dents have access to many online research resources including the library's catalog and over 200 research databases that provide full-text access to many scholarly journals, books, dissertations, and newspapers. The library's Web site contains numerous help resources including an A to Z index, detailed subject/topic help pages, database and technology help sheets, tutorials, and FAQs. Students can view an online video about the library services available to distance students or request that a version on CD be mailed to them (NSU, 2007a).

A comprehensive library handbook is available on the Web site in HTML, PDF, and Word formats. In addition, students can request that a print copy of the handbook be mailed to them. The handbook contains detailed descriptions of all the library services and resources available to students, and contact information. There is even a section explaining the research process and the steps involved. Other sections in the handbook include discussions of types of periodicals, primary and secondary sources, peer-reviewed articles, database search guides, locating specific types of articles, and citing sources using American Psychological Association style (NSU, 2007a).

The Alvin Sherman Library also provides document delivery service for distance students to borrow books and dissertations, and obtain copies of journal articles not available full-text online. The library has lending agreements with various libraries throughout the country. Using online request forms, students can request up to 25 items per week through the document delivery services. Materials are delivered to users through the mail and via electronic means (articles are posted to a secure Web site). Students keep track of transactions by accessing their online document delivery account (NSU, 2007a).

The main library provides distance students with various ways of receiving general, technical, and research assistance

from librarians. The reference desk, which is open 7 days a week, is staffed with librarians for over 80 hours each week (Quinlan & Tuñón, 2004). Students can e-mail questions to the reference desk using an online form and expect a response from a librarian within 24 hours. Students can also call the reference desk with questions using a toll-free number regardless of whether they are in the United States, Canada, or the Caribbean (NSU, 2007a).

Another service available to NSU distance students is live chat reference. The library provides students with access to chat reference through a service called Florida Ask a Librarian (<http://www.askalibrarian.org>). Librarians from all over the state of Florida (including NSU Alvin Sherman Library librarians) provide general reference and research assistance to users. Students can sign in during the hours of operation and receive live help from the librarians on duty. Chat reference is available to students for over 80 hours each week (NSU, 2007a).

A typical 2-hour shift at the reference desk may require a librarian to “use e-mail to help an NSU doctoral business student from Georgia, guide a walk-in distance student from a proximal academic institution to a full-text database, and provide digital chat reference to an unaffiliated college student in Gainesville” (Quinlan & Tuñón, 2004, p. 117).

Live help is also available to distance learners in the form of individual library training. Students can schedule an appointment for a one-on-one phone consultation with one of the Alvin Sherman Library librarians. Students then call a toll-free number at the scheduled time and receive a 1-hour consultation with the librarian assigned to them. Students are able to sign up for additional sessions as needed (NSU, 2007a).

Other services provided by the library include access to tools such as Thomas ResearchSoft and EndNote for compiling and creating bibliographies, access to elec-

tronic course reserves, and information about local library resources in the various areas where distance students live (NSU, 2007a). NSU distance students visiting the Fort Lauderdale area are always welcome to stop by the reference desk in person for research or other assistance.

Librarians at NSU’s main library are also responsible for providing library training to many of the university’s distance students. NSU’s distance students are often located miles away from the main campus of the university and rely heavily on the online library for their research needs. It is therefore essential that they receive library training. According to Johanna Tuñón, head of the library’s Distance and Instructional Library Services department, librarians regularly travel to the university’s academic centers throughout the country and the Caribbean to present library instructional sessions to students (J. Tuñón, personal communication, April 17, 2007). In addition, they travel to the school of education’s annual conference to provide library training sessions and assistance to that department’s numerous distance students. Library instruction is also made available through online training modules that students complete as part of course requirements in their respective programs. Librarians also create and maintain the asynchronous training tools such as the online tutorials, help sheets, subject guides, and the print and electronic versions of the library handbook (J. Tuñón, personal communication, April 17, 2007).

Future library instruction plans include the use of technologies such as Captivate to create interactive online tutorial and other training tools that incorporate a variety of media including audio and video. There are also plans to explore the offering of library training during live synchronous class sessions using software such as Elluminate or Horizon Wimba, and to further integrate library training into the curriculum of the academic programs (J. Tuñón, personal communication, April 17, 2007).

CONCLUSION

The continuous development of new electronic information technologies has led to an increase in the number of distance education degree programs available as well as the number of institutions of higher education offering such programs. This rapid growth of distance education has allowed an ever-increasing number of students from a variety of locations to enroll in distance programs. Since distance students depend on the online library and librarians for their academic needs, it is important that universities provide adequate resources and services for them. In 2004, 50.7% of Alvin Sherman Library users accessing the online databases were distance NSU graduate students (Quinlan & Tuñón, 2004).

According to the Guidelines for Distance Learning Library Services provided by the Association of College and Research Libraries (ACRL), "library resources and services in institutions of higher education must meet the needs of all their faculty, students, and academic support personnel, regardless of where they are located" (ACRL, 2004, para. 1). Nova Southeastern University's Alvin Sherman Library, Research, and Information Technology Center seems committed to providing dis-

tance students with the resources and support essential for their academic success.

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Telemedicine, Urban Style

Keith J. Blair

A mode of medicine traditionally reserved for patients with limited access to healthcare is now being used in urban and suburban childcare centers, and many of the centers are within a few miles of a healthcare provider. Telemedicine is bridging the gap of geography in Rochester, New York, childcare centers. A patient's physical distance from a healthcare provider is no longer the principal determinate for the mode of health care provided. Telemedicine urban style is designed to enable treatment for common medical conditions that disrupt a child's attendance at childcare. The University of Rochester Medical Center's Golisano Children's Hospital, in conjunction with TeleAtrics, Inc., deployed a telemedicine net-

work in Rochester. The Health-e-Access telemedicine network is designed to reduce childcare and school absences resulting from illness. By making healthcare for urban and suburban children readily available, the Health-e-Access program allows childcare centers and doctors to work together to integrate telemedicine into existing day-to-day healthcare practices (Strong Health, n.d.).

WHAT IS TELEMEDICINE?

The term *telemedicine* derives from the Greek *tele* meaning "at a distance" and the word "medicine," which itself derives from the Latin *mederi*, meaning "healing." The American Telemedicine Association (n.d.) Web site defines telemedicine as the "the use of medical information exchanged from one site to another via electronic communication for the health and education of the patient or healthcare provider and for the purpose of improving patient care." A search of the literature reveals that telemedicine as a practice has been in place since the early 1960s. Until the mid 1960s, telemedicine was primarily conducted using land-based technology. One of the first telemedicine programs in the United States to use more advanced technology was established between Massachusetts General Hospital and Logan International Airport Medical Station in 1967. The cooperative relationship provided occupational health services to airport employees and delivered emergency care and medical attention to travelers. Physicians at Massachusetts General Hospital provided medical care to patients at the airport using a two-way audiovisual microwave circuit.



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Evaluation, diagnosis, and treatment of the patients were made by participating personnel and independent physician observers. Analysis was also made of the accuracy of microwave transmission. Inspection, auscultation, and interpretation of roentgenograms and microscopic images were also performed. Necessary hands-on procedures were performed by the medical station nurse-clinicians (Brown, 1995).

The practice of telemedicine has expanded to include a full spectrum of health sciences including rehabilitation occupational therapy, physical therapy, speech-language pathology, audiology, pharmacy, health promotion, dentistry, nursing, as well as medicine. The technology of telemedicine can be subdivided into four general areas: (1) medical support, training, and teleconferencing services for doctor-to-doctor consultation; (2) involves a disparate set of applications using communications for medical services such as centralized intensive care unit monitoring and shipping radiology images around the world for analysis which is also considered to be under the umbrella of telemedicine; (3) chronic care home-monitoring technology; and (4) the telemedicine which can best be described as a system platform application of telemedicine with all necessary software based workflows and system support for providing real-time and/or store-and-forward capabilities for providing acute care.

Two important factors influenced the expansion of telemedicine beyond its early applications for patients with remote access to health services using telephones or microwave circuit technology. First, the personal and professional use of high-speed, high-bandwidth telecommunications systems has become commonplace—low-cost, high-resolution, Internet-based video conferencing systems are available for purchase online or in electronic chain stores. Second, there has been a significant change in the manner in

which American's accept the practice of using the Web to provide and mediate health-related information. Research conducted by the Pew Internet & American Life Project shows that, as more and more Americans come online, so too do more Americans rely on the Internet for important health information. In a March 2005 survey, 12% of online adults—representative of 17 million people—said the Internet played a crucial or important role as they helped another person cope with a major medical illness. Fifty-one percent of adults said they had gone online for health information in the last month, versus 27% in 2001. Inexpensive technology and acceptance of mediated health-related information have enabled healthcare providers to provide service to large numbers of people in varying stages of life and geographic locations.

Companies such as Tel-e-Atrics, Inc. are taking advantage of the new economies of scale for hardware, software, and signal transmission. Tel-e-Atrics has leveraged the new economies by developing Telemedicine networks for urban and suburban healthcare providers. The comprehensive system platform application of telemedicine support service is designed to make healthcare for common acute illness more readily available. One of the primary objectives of Tel-e-Atrics is to reduce absences resulting from illness in urban children. Tel-e-Atrics programs have allowed childcare centers and the regular doctors of the children in the program to work together to integrate telemedicine into existing day-to-day healthcare practices. Tel-e-Atrics is staffed by technologists and does not engage in providing health services, but has relationships with healthcare organizations providing service. Tel-e-Atrics connects doctors, nurses, and other members of the healthcare team with their patients wherever they may be. Using high-quality videoconferencing, digital medical cameras, and other diagnostic equipment, medical evaluations can be completed and implications discussed

face-to-face, while providers and patients remain miles apart. The Tel-e-Atrics application is secure Web browser-based and can be accessed on the Internet from anywhere in the world. The Tel-e-Atrics application runs on the https protocol, which means that all data that moves between the client Web browser and the secure Tel-e-Atrics server application are encrypted. None of the certified Tel-e-Atrics Assistants who are registered to have access on the system actually know their "user ID" or "password"; they use a biometric fingerprint reader which is built into the telemedicine workstation's keyboard access the Tel-e-Atrics application (Tel-e-Atrics, n.d.).

IN PRACTICES

In 1995 Tel-e-Atrics' technology was deployed as a local experiment to have doctors diagnose children remotely using the Internet. The company was conceived by researchers at the Golisano Children's Hospital at Strong, who called the project Health-e-Access. The Health-e-Access program is the first in the nation to offer telemedicine at childcare centers in low-income neighborhoods. Tel-e-Atrics' computer equipment were installed at 12 childcare centers, 10 city and suburban elementary schools, and a group home. These sites electronically connect patients with doctors at 10 private pediatric practices and the University of Rochester Children's Hospital. Two-way video teleconferencing establishes real-time communication so that doctors and children can interact with each other. The high-speed connection allows information to be transmitted from a specialized camera that provides diagnostic-quality images of the ear drum, throat, eyes, and skin areas most affected by common childhood illnesses. In addition, an electronic stethoscope captures high-quality lung and heart sounds. Devices designed to measure weight, blood pressure, and pulmonary functions are in development. Doctors at the remote loca-

tion then make a diagnosis, prescribe treatments, and provide a treatment report to the child's pediatrician when applicable. Prescriptions are delivered directly to the center the same day so that treatment can begin even before a parent picks up a child.

To enter the Health-e-Access program, Rochester area parents sign up and provide consent for participation in the telemedicine program at the time the Tele-Atrics equipment is installed. Children are examined by their primary physician or one of a number of participating pediatric care providers available routinely every day at hours requested by the childcare center or school. If a child is sick at the beginning of the day, parents will be asked at drop-off to provide information describing the illness; a parent has the option to remain behind for the telemedicine evaluation during the day. If the child's illness has become apparent during the course of the school or care day, the tele-health assistant attempts to contact the parents regarding the illness and will arrange for the child's physician or practitioner to examine the child via telemedicine. After every telemedicine examination, parents receive written instructions with the physician's diagnosis and recommendations for treatment, and all components of the evaluation including pictures of the key parts of the examination, such as infected ear or records of heart/lung sounds, become part of the child's permanent record maintained by the physician. Since its launch, Health-e-Access has produced astounding results during more than 2,600 long-distance visits. For example, child absences due to illness plummeted by an average of 63% at participating childcare centers. According to Neil Herendeen, MD, medical director of Health-e-Access, citing research published in the May 2005 issue of *Pediatrics*, which shows parents and employers benefit, "Research shows that across the country 40% of parental absences from work are due to child ill-

nesses. We know from our experience that telemedicine significantly reduces parents' work absences." While the parent experiences less stress and can remain on the job, employers are getting their money's worth from an employee who can remain focused on the task at hand. An impressive 92% of the parents participating in the program said that Health-e-Access allowed them to stay at work when they otherwise would have taken their child to an unexpected doctor's visit. In addition, 94% say the program helped avoid making a visit to the primary care physician or emergency room. Participating parents said that 20% of the time they would have ended up with their child in the emergency room without the telemedicine visit. The research survey revealed that each telemedicine visit saves Rochester parents 4.5 hours of missed work. Parents also said that the presence of a telemedicine service would sway their selection of a childcare center, with 94% saying they would choose a childcare center with telemedicine over one without the service (McConnochie, Wood, & Kitzman, 2005).

TELEDENTISTRY

The American Telemedicine Association defines *teledentistry* as taking and transferring digital pictures of the mouth so that they can be reviewed by dentists and other specialists. The Access-e-Health and the University of Rochester's Eastman Dental Center conducted a pilot program to routinely check the oral health of low-income children between the ages of 1-5 who miss dental checkups. The program uses computers that are already part of Health-e-Access network. The pilot program was conducted at target Health-e-Access locations in low-income neighborhoods in the greater Rochester area. The university conducted an initial study with about 50 children in 2003 to gauge the validity of the teledentistry program. After receiving \$50,000 from the Aetna Foundation, the

program was expanded. Of 162 children, almost 40% had at least two cavities. The statistics validated that there were children who needed treatment but were perhaps falling through the cracks. Although Health-e-Access provides service to all economic brackets; however, the dentistry pilot program was initially targeted toward disadvantaged children who might not otherwise get regular dental care. Screening by way of digital photography allows many children's cases to be reviewed in a short period. Although most children in the program had been to the dentist at least once, many had not attended the required follow up visits; the computer screenings fill in any gaps and encourage parents to keep up on their children's oral health. If a pediatric dentist reviews the pictures taken at Health-e-Access and sees cavities, parents are referred to a dentist who can take patients on Medicaid or who have no health insurance. About 226 children were screened by January 2004 (McConnochie, Wood, & Kitzman, 2005).

CONCLUSION

The potential for specific telemedicine applications to enable quality healthcare has been demonstrated using commercially available technology. The opportunity for a wider range of patients and healthcare providers to gain from the access and effectiveness proffered by telemedicine hinges on the continued proliferation of Telemedicine networks. Collaboration is strategically important for future exploitation and deployment of telemedicine solutions. In the case of the Rochester network, the collaboration between investors, innovative technologists, and visionary healthcare professionals improved the health and welfare of Rochester's inner-city families. The United States is at a point in both its demographic maturity and technological advancement to move beyond telemedicine as an exception, toward evaluative, consultative treatment as the norm.

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CASE STUDY

From the One-Room Schoolhouse to Virtual Education

A Perspective of What to Do While the Transition Takes Place

Arnaldo Gheresi

When “formal” education came to America, it differed greatly from the English models on which most new American ideas were founded. England had academic schools, but mainly for the privileged. All other “students” trained as

apprentices, often starting as very young children placed in fosters-ship with a master who taught them the trade or skill they would practice during their lifetime.

The first schools in America, including that of Joseph Cotton, established in Mass. in 1633, were more academically inclined but still limited in content. Basic reading skills and memorization comprised the mainstay of the curriculum, with Greek and Latin for scholars in upper levels.

Formal schools started wherever space could be found, whether it be a meeting hall, barn, or spare room in a large home. Eventually it came to be recognized that focus on the subjects at hand, was better achieved in their own, stable environment, and the better established and richer settlements began building schoolhouses.

There were no examples to model their schools after, and so they ended up being the most practical of shelters: one room, with benches, and a stove. Desks would not appear for many years yet, and blackboards wouldn’t be seen until the 1820s.

In the town or city where the teacher lived nearby and so did the students, this kind of institution was all very well, but in the country it was a different matter. Teachers were charged with clearing away heavy snowfalls, and arri-



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ing early enough to bring wood in from outside and have the stove going before students arrived. There were no "snow" days, and the teacher was expected to be there, even if the students didn't show up. In the country, that could mean anything from a walk of several miles, to a horse struggling over roads blocked by snow-drifts.

There were no grades in the beginning, simply children learning at their own pace, something which may very well have been an advantage over today's system. Certainly, the benefit of having children older or more advanced than others helping those struggling or at lower levels of achievement, was preferable to some school situations now faced in cities where classrooms are overcrowded, teachers overworked, and students under-assisted. (extracted from <http://historyeducationinfo.com>)

Since the Industrial Revolution, the necessity to educate more people at a faster pace has not stopped. First, building bigger schools and larger classrooms to accommodate more people; and recently thanks to e-learning this capacity has been made unlimited. However, as exposed in the previous paragraphs, this growth in education facilities and opportunities does not necessarily mean that the learning process has evolved in to an easier or more effective one.

The transition between in-class to virtual education will take some years. Limitations on the necessary infrastructure and changing students' behavior, among other considerations, will graduate the speed of this process. The speed of change to a virtual education will depend mostly on the quality of the applications; the applications need to speed-up the learning process of the individuals, and to adapt to their needs better than books or multimedia/online presenters of content and exams.

Learning is a very individualized process, and facilitating this process has become a very difficult art. Time constraints limit the teacher's ability, in class

or remotely, to provide personal attention to each student.

Consider the learning process as a combination of different models, steps or styles: cognitive, constructive, conductive, and collaborative, among others. The cognitive step requires special attention as well as more time for developing, since without knowledge it is much more difficult to develop the rest of steps.

The cognitive heterogeneity of the group limits the teacher's ability to develop activities that achieve the other steps. If we could provide teachers with cognitively more homogeneous groups of students, participation in class will increase, and the rest of the steps could flow naturally and dynamically. The learning process would be accelerated.

Imagine now a software application that addresses this issue. A client-based or online tool with the entire content of the current books. A database filled with learning objects that a teacher can sort and group according to lessons. This application uses multimedia in order to present these objects and students can take as much time as necessary in acquiring these objects. This application will also incorporate a methodology to track and reinforce particular objects in which the student demonstrates difficulties. The application will also evaluate and provide immediate results so students can address confusions or difficulties immediately. Reinforcing is based on reviewing the objects, depending upon the student's answers. Reviews are taken to longer intervals of time each time. Objects are considered learned once the student can answer it correctly after a certain interval of time. Students must also take the reviews before they begin new lessons.

Now, combine this application with a learning management system. The LMS will provide an intranet to validate the student's identity through a logging routine. Also, during this routine, the student's progress is updated at the server and at the

machine where the application is being used. The student's progress captures all the activities carried on by each student with the application: study date, study time, lessons studied, objects studied, objects learned, lessons learned, lessons under review, objects under review, times lessons have been reviewed, times objects have been reviewed. The LMS will also provide a means of interaction between teacher and student as well as reports based on each student's metrics. These metrics will provide the teacher with an in-depth look at each student. He/she will be able to: pinpoint objects that are causing difficulty, address students who are not keeping up with their lessons, as well as have insight in to each students particular study habits.

Finally, combine the use of this application (at home) with the classroom.

The application will pretrain the students with the materials they will use in class. The student will use a multimedia

book with bidirectional interactivity: student-CPU/CPU-student. The students are at home, where they feel no pressure about making mistakes; some students can take more time than others to complete assignments. The reinforcing methodology will help students to develop long-term retention; lessons or objects with higher difficulty will be reviewed more frequently, and objects previously learned or mastered will not be reinforced. This will maximize efficiency in the study time.

Online Educational Solution (OES) has been working at developing an application that addresses the current issues facing education. Taking into account the great hurdles foreign language students need to overcome, OES has developed an application that subscribes to this formula: Pre-trained students + Educators with insight and time = More efficient learning experience.

To learn more about OES please visit <http://www.theenglishteacher.com>

CASE STUDY

Mediasite Technology Meets the Needs of Both Students and Faculty at Drexel University

Founded in 1891, Drexel University provides a distinguished and diverse academic offering for undergraduate and graduate students and is home to the nation's largest private medical school. As one of the top universities in the country, Drexel is a recognized leader in the integration of the latest technological advances and has a long legacy of "firsts." In 1983, Drexel became the first

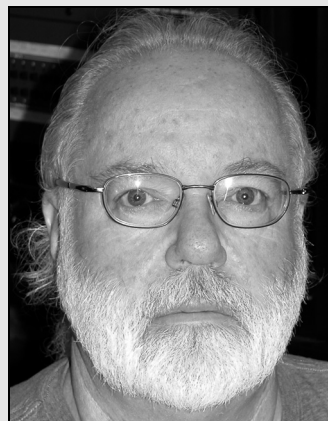
university to require all entering students to have a computer. In 2000, Drexel became the first major university to operate a fully wireless campus. In 2002, Drexel launched the first mobile Web portal service for students, enabling them to access a range of information via virtually any Web-enabled handheld device, from anywhere in the world.

CHALLENGE

As a leading university that prides itself on innovation, Drexel desired to find a technology that addressed the needs of both students and faculty. Like many universities, Drexel views online learning as a critical component to its future growth, but considers it more of an evolutionary extension to its tech-laced curriculum than a revolutionary departure from its proven education offerings.

"One of the functions we thought to be most critical was a technology that integrated all the features and functions you need into one complete, highly reliable system," said John Morris, director of academic technology innovation, at Drexel's Office of Information Resources and Technology.

As a leader in education, Drexel offers hybrid classes that feature both in-class and remote learning components. In an



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effort to support the greatest number of courses quickly and economically, the university sought a centralized approach to its online program that allowed it to scale to meet increasing demand.

SOLUTION

By taking this centralized approach, rather than outfitting every classroom with a complete Mediasite rich media recording and publishing system, Drexel created a master control center in the building that houses the Office of Information Resources and Technology. All nine classrooms in the IRT building are hard-wired to the control center where all RGB content, video, and audio is captured, encoded, streamed and archived.

"Mediasite has been so effective that now we're trying to develop ways to do remote captures from classrooms on campus that aren't hard-wired by using a proxy machine that would communicate between the instructor's laptop and a Mediasite in the control room," said Jan Biros, associate vice-president for instructional technology support at Drexel's Office of Information Resources and Technology.

Using Sonic Foundry's Mediasite rich media systems, Drexel is able to provide a complete and convenient online replication of classroom course content necessary to provide an optimal learning experience to today's tech-savvy students.

RESULT

Drexel University installed its first Mediasite system in 2003, and then added a second a year later to enable concurrent captures. The university now captures 30 hours of rich media course content a week, and professors are now on a waiting list

for access to the recording classrooms. Courses range from 1-hour undergraduate to 3-hour graduate classes, and span disciplines from English to chemistry. All courses are available live and on-demand and can be accessed by students enrolled in traditional or online learning sections.

"Mediasite makes it easy to do the class live at the same time that you're archiving it," Morris said. "The number of classes we're capturing grows by 50% every 6 months so it won't be long before we top 1,000 hours of recordings."

All Mediasite recordings are archived in Drexel's Blackboard Vista course management system, where students can access them anytime, anywhere for 1 year. Whereas traditional classroom-based students often use the rich media recordings to review course material before exams, remote students stay fairly consistent in their viewing habits.

"The goal for our classrooms is that faculty can walk in and teach in a completely natural way and not be encumbered by the technology. That's one of the reasons the professors love Mediasite. There's nothing extra or different for them to do, yet they reap all the benefits," said Morris.

BENEFITS

- Unobtrusively records educators in their natural classroom environment;
- Automates capture, management, and delivery of multimedia presentations;
- Supports in-class learning, as well as Web-based, distance learning and integrates with Blackboard Vista course management system; and
- Provides distance learners with an online representation of the classroom experience, including audio, video, and synchronized instructional materials, polling, and Q&A.

CASE STUDY

Wayne State University Takes the Lead in Library and Information Science Using Mediasite

The Wayne State University Library and Information Science Program can trace its origins to 1918, when the Detroit Normal Training School began offering courses in school librarianship to elementary teachers in the Detroit Public School system. After the training school became the Detroit Teachers College in 1923, the library science program grew and it remains one of only 57 American

Library Association-accredited degree programs of library and information science in the United States and Canada. In recognition of the growth of the program and the expansion of its curriculum, the name of the program was changed to the Library and Information Science Program (adding information science) in 1993. The program has 15 full-time and 60 part-time faculty members.



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CHALLENGE

Joseph Mika, then director of the Library and Information Science Program, sought to take advantage of a technology that would enhance student learning. The school already had transitioned from a successful on-site program to four off-campus sites to offering online courses using the Blackboard course management system. The next logical step seemed to be the integration of live classes for remote students.

Mika discovered Mediasite while attending a recruitment meeting for directors and assistant deans more than 2 years ago. At that meeting, he spoke with the assistant dean of the university business school, who raved about Mediasite, so Mika went to see it in operation. About 2 months later, the Library and Information Science Program had its own Mediasite system.

SOLUTION

"I went after something I knew worked and had a chance to observe," said Mika. "The equipment itself is very straightforward and easy to use. It only took a matter of hours to get up and running after watching the demo by Sonic Foundry personnel and using the technology ourselves."

The Wayne State University Library and Information Science Program utilizes Mediasite to capture a minimum of 25-28 recordings per month. Seven teachers capture four lectures per week. Program faculty have affectionately nicknamed Mediasite "ECHO," which stands for "enhancing courses held online." "I love Mediasite," said John Heinrichs, assistant professor in library and information science. "It's a whole new way of teaching. Now I can stop, run polls to see if students understand the content. I can see if there are any questions being keyed into the moderator function and answer those right away."

Working students also are able to save time that otherwise would be spent in transit between school and their places of employment. In fact, some employers are so appreciative that their student employees can remain on-site, they allow them to view Mediasite classes at the office or at another convenient location. "The students seem to really love it," said Heinrichs. "They don't have to travel during tumultuous Michigan winters and are able to review lectures—stop and replay, which they obviously can't do in a conventional classroom environment."

RESULT

Besides online course content, Mediasite now is being used to capture new student orientations. "We used to require students

to come to our campus for orientation classes. Now we can capture orientation online and provide a virtual orientation," said Mika. Additionally, Mika recently received a grant that would allow department faculty to offer mediasite continuing education curricula to rural librarians not wishing to undertake a master's degree.

Mediasite has changed Heinrichs' very own approach to teaching. Since the program purchased Mediasite, Heinrichs takes care to enunciate his words and to avoid meandering around the classroom as he drives home a compelling point. Heinrichs now uses masking tape to corner off the area in which he must remain so that he can be sure to be visually captured by Mediasite.

"It's not a question of saving money. It's more an issue of increasing the student body by reaching remote individuals who otherwise would not be in our program," Mika said. "Mediasite is helping us expand the benefits of our teachings as well as increase our student enrollment," said Heinrichs. "It's not just a teaching and learning tool; it's a driver of growth."

BENEFITS

- Provides faculty with immediate feedback on student comprehension during class;
- Enables students to time-shift, allowing them to maintain employment while still enrolled in school;
- Allows faculty to communicate with students who are geographically dispersed around the state, particularly during extreme winter driving conditions;
- Improves comprehension as students stop and replay lectures for review; and
- Increases student enrollment while expanding the benefits of instruction to new audiences.

CASE STUDY

York University Improves the Educational Experience using Mediasite

Founded in 1959, York University is now Canada's third largest university and world-renowned for attracting students who forge their own unique paths. York's top-ranked programs set international standards. The faculty expands the horizons of its students, providing them with a broad perspective of the world that opens up new ways of thinking. York offers a full range of programs and degrees and is setting the contemporary standard in academic excellence, pioneering research and innovative thinking.



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CHALLENGE

As one of the premier educational facilities in North America, York attracts an increasing number of students worldwide. However, its well-earned respect and popularity came with a price: a swelling of the university's classrooms. In addition, a growing percentage of its students are adults trying to balance career, family, and education. A few years ago, the university began delivering online lectures through audio players, and later added video, but it was dissatisfied with the two-dimensional experience this provided its students. The school was desperate for a system that could combine the audio, video, and graphic components of a typical classroom lecture.

"We sought a solution which would allow us to deliver students a richer academic learning experience than just having a professor stand up in front of the classroom and present the same lecture," said Kelly Parke, senior multimedia designer at York University. "We also wanted to make the presentation as user-friendly as possible, allowing our adult learners to view the content at their convenience."

York's professors and directors believed a multimedia online learning solution could address some of its growing pains while improving the quality of students' education, but they needed a system that would not create additional work for the faculty. In fact, that caveat was stipulated in the faculty union contract. As a result, York assembled a research team to find an

e-learning solution that: required little or no technical expertise or training; offered live and on-demand rich media via the internet; eliminated the need for costly and time-consuming postproduction, and delivered the highest return on investment in the shortest amount of time.

SOLUTION

The research team evaluated dozens of technologies and found many that met one or more of the criteria, but none that met all four requirements. Finally, after 2 years of searching, York University found one that did: Sonic Foundry's Mediasite.

Educators instantly began envisioning how the versatile Web communication solution could be incorporated into its teaching curriculum to most effectively reach its rapidly growing student body.

"We uncovered immediately upon our purchase of Mediasite that having the right tools in place allowed educators to be more effective and reach a greater number of students, while at the same time relieving some of the pressure on our classrooms and parking lots," said Parke.

Mediasite's presenter-friendly design meant that educators could continue to focus on teaching, instead of having to learn new multimedia technology or Web-casting software. They simply plug their notebook PCs into the system. There was no new software to load. No new skills to learn. No extra time required. No need to submit their slides ahead of time for encoding. Mediasite automates all the necessary processes—capturing, encoding, integration, streaming, and archiving of all the audio, video, and graphic content in real-time. Unlike other Web presentation systems that limit users to PowerPoint, Mediasite gives York professors the ability to use any teaching tool, such as document cameras, graphics tablets or smart boards, and maintain the high-resolution of their original instructional materials.

RESULT

For York University students, Mediasite means the convenience of easily accessing courses remotely anywhere, anytime using their Web browser. Now, more students can continue their education online as their schedules permit, reducing the problems associated with overcrowded classrooms and the headaches of commuting. Furthermore, Mediasite's unique navigation capability lets students quickly preview the content of archived lectures by simply selecting a thumbnail.

The university has seen spikes in on-demand usage just before exams, indicating students are using the archives to review course material. Both professors and students are giving rave reviews about their experience with Mediasite, illustrating the important role Mediasite has played in enhancing the educational experience at York.

Given the results to date, York plans to expand its online learning program to a broader student population by offering audio and video podcasting to engage the mobile learner. The university is in the process of outfitting most of its new classrooms with robotically controlled cameras and state-of-the-art computer systems to make them more Web-enabled. "We have learned through our experience with Mediasite that a well-designed, content-rich presentation is vital to a successful distance education experience," said Parke.

BENEFITS

- Addressed university growing pains to relieve pressure on packed classrooms;
- Delivers a richer academic learning experience than traditional instruction alone;
- Allows adult learners balancing career, family, and education to view content at their convenience; and
- Scales easily to meet growing demand.

INTERVIEW

Conversation With a True Maverick

Michael F. Beaudoin

María R. García and Arnold (Noteh) Glogauer

INTRODUCTION

History tells us “how the west was won.” The advocating of a new order, the establishment of fundamental principles was all achieved through the strong arm of the maverick. A revolutionary renegade, he refused to abide by the stagnant dictates of the past. This independent logician exhibited the qualities that spun the wheels of change. Today we have changed the metaphor

from the image of the “lone gun” to Rogers’ (1962) diffusion of innovations change agent—the “innovator.” Portrayed as the venturesome risk-taker, the innovator is the revolutionary seeking to apply a unique skill set with the mission of effecting change in an exclusive environment. In the field of instructional technology and distance education (ITDE) Michael Beaudoin is the quintessential innovator. Hav-



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ing devoted his entire academic career to the advancement and delivery of innovative programs, this trendsetter is a prime example of leader in his field.

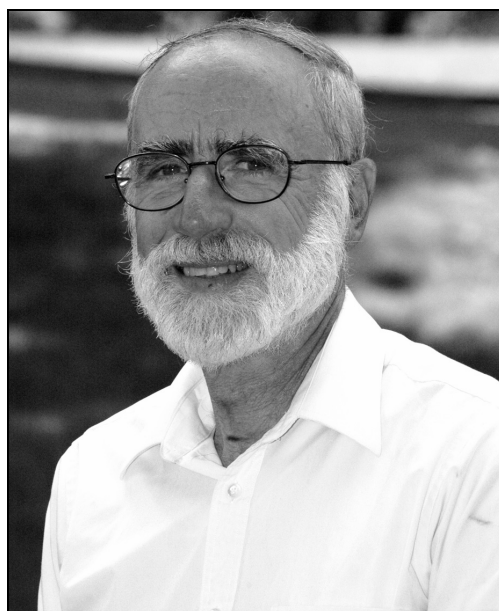
Beaudoin's constant discourse on the need for grounding the field in the literature and on the importance of the pedagogy over the technology of teaching at a distance has been an inspiration to many graduate students. His experience is in line with Boyer's (1990) definition of a scholar. Boyer defines four functions of a scholar: teaching, application, integration, and discovery.

Scholarship of teaching. Teaching refers to sharing the knowledge with students and empowering them to continue to teach themselves after school is over. Beaudoin has been teaching primarily adult learners since 1963. In his quest, he has utilized various pedagogical approaches and delivery methods, and has served as mentor to hundreds of students.

Scholarship of application. Application refers to the engagement as the scholar seeks a responsible way to apply knowledge to consequential problems, and ways of making it helpful for individuals and institutions. For 40 years, Beaudoin has held progressively demanding executive-level positions in academia, including being the founding dean of a college. He has also been active in a variety of professional service roles, including the U.S. Department of Education.

Scholarship of integration. Integration refers to making connections across the disciplines. It implies interpretation, fitting one's own research or that of others, into larger intellectual patterns. It is the quest for the meaning of the findings. Beaudoin has participated in over 50 invited presentations at state, regional, national and international conferences, including keynote talks, and best paper awards.

Scholarship of discovery. Discovery refers to research; the search for new knowledge: the quest for what is to be known, what is yet to be found. Beaudoin is a widely pub-



Michael F. Beaudoin

lished author. His publications surpass 40, and include articles in refereed journals, book chapters, reports, planning and evaluation studies, and even two books. His work has been widely cited by other scholars.

In addition to his contribution as a scholar, he finds enough time to travel, play sports, and other interests. Beaudoin has traveled extensively throughout the world and is a competitive master athlete. His hobbies include jazz, classical music, antique house restoration, and wine collecting.

During our e-mail interview, Beaudoin spoke with us about the present and future of the ITDE field, what it takes to become a scholar in ITDE, and when will distance education enter the mainstream.

INTERVIEW

Q: We understand you joined the instructional technology and distance education (ITDE) field in 1985. What attracted you to it?

DE and IT are, of course, two different things, so I make a distinction here in

responding. Actually, I first became involved in DE in 1980, as first dean of a rapidly expanding DE program at a private college in Maine, which was farsighted enough to recognize the potential of new DE enrollments to save the traditional campus-centric institution (Sometimes, people make the right decision for the wrong reason). The program grew to then become one of the largest in the U.S. My involvement with the IT end of DE began in 2000, when I designed and taught my first fully online course for University of Maryland University College; I still serve as an adjunct teaching in its Master of Distance Ed program.

My entire career as an educator has been focused on the development and delivery of innovative programs intended to serve adult students not served by traditional programs. So, like many other DE-types, I first got involved in continuing education, then gravitated toward DE, as it was a logical extension of my earlier work. Since then, I have moved back and forth between CE, DE and other forms of adult education, mostly at the graduate level.

Q: The field of ITDE has changed over time with expanded research and new technology, but how has the field of ITDE changed you since you have been involved with it?

Since, as I indicated above, I have always been sort of an educational maverick, I'm not sure getting into DE really did change me, but rather just changed my focus to the distance dimension of teaching and learning. I was able to utilize many of the same skills acquired earlier (e.g., planning, management, evaluation, course design, etc.). But I suppose the focus on DE did require me to play a stronger advocacy role, often feeling like a pioneer trying to introduce change into resistant settings. I also was forced to adapt to the online environment, having begun in DE using earlier modes; though I have always been more interested in pedagogy than technology.

Q: From your perspective, what are three of the most noticeable trends in the field of ITDE?

One of the more obvious trends is that more faculty are now using IT, although the majority do so by incorporating selected elements into their face-to-face courses. Many of these colleagues would never admit to teaching via DE and in fact, most don't. I might note that at my home institution, I am the only full-time professor who teaches entirely at a distance.

Another noticeable trend, of course, is the rapid increase in online course enrollments, not only at mega-institutions like UMUC, but even at more traditional and even more elite colleges that were late comers into DE. Frankly, much of this new interest and activity in DE was not because of any genuine commitment to this new mode, but to generate new enrollments.

A third trend/tendency is for those getting engaged in ITDE to focus too much on the IT aspect and too little on the DE aspect of the field. An example is that most folks doing faculty training in ITDE assume it all has to take place in a computer lab; when I do faculty training, the first session never has a computer in sight.

Q: What are the most essential characteristics needed for a professional in the field of ITDE?

I think the key attributes for this field depend on the role to be played. If one aspires to be a leader, then one needs a certain repertoire of skills that differ from those of an instructional designer. However, regardless of the role taken, one should always see him/herself as an educator first and foremost. In the leadership role, one really must have a lot of perseverance, as many wannabe DE venues still require a near existential struggle against the forces of traditional teaching systems and structures. I introduced DE at my current institution nearly 15 years ago, yet even today, there remain far more in-house skeptics than supporters, despite

our success. Effective DE leaders must have the capacity to manage change by creating the conditions that support innovation, and they need to focus on both micro and macro elements of DE, i.e., details as well as big picture.

Q: Currently, what is your biggest concern within the field of ITDE on a national scale?

One concern I have is that there are suddenly too many ITDE “experts” around, especially on campuses and at conferences. At my university, the IT dept. is always assumed to provide the expertise, but quite frankly, they don’t really have a clue as to what teaching with technology in this digital age is really all about! Another example is that a colleague in my dept. developed and taught her first online course ever, and was then immediately seen as the dept. expert in all matters re: online teaching and course design. I see the same phenomenon played out at conferences that tout themselves as major DE sessions. Sadly, it seems that far too many presenters are like my colleague mentioned above—limited practice in the field and no knowledge of the theory, so they are reduced to a “show and tell” session that contributes nothing to the audience or to the field.

Q: Is this concern also of international importance, or are there other more pressing concerns at the international level?

I am just completing a major research/writing piece on the diffusion of e-learning in Sub-Saharan Africa, and for sure, there are many issues at the international scene, though perhaps different from what I note above. Perhaps my greatest concern is that there is much talk about ITDE in Africa, but with the exception of a few promising activities, little real progress is being made. There is plenty of dual-mode DE going on, primarily print-based with face-to-face sessions at regional study centers, but movement to the next generation of ITDE is

slow. Most folks here say the problem is lack of resources (specifically money and computers), but I believe a big part of the problem is overdependence on external grants, lack of leadership, lack of planning, lack of IT systems management. I also have a real concern that once IT finally becomes a more prevalent delivery mode for DE in Africa, it will simply overlay the traditional colonial era mode of instruction that is not very learner-centered.

Q: You have said that distance education has the potential of providing better access to learning opportunities and can potentially impact an entire country. In what ways do you think that ITDE has the capability to contribute to the globalization of education?

I fear that the predicted globalization of education, primarily through IT-based DE is somewhat overoptimistic. The barriers to this happening in the near-term are enormous, as noted in my prior response, and includes high cost of bandwidth, unreliable power, slow service, lack of computers, etc. DE certainly provides broader access to learning in developing countries, but it is still limited to selected individuals and groups, and does not necessarily have a transforming impact on an entire nation. My piece on e-learning diffusion is not especially sanguine regarding the future of an electronically connected world community. My colleagues in Ghana often use the phrase “Ghana has a long way to go” and frankly, when it comes to ITDE, they are quite correct.

Q: What is the challenge of dealing with cultural beliefs? How may we make sure that we respect cultural beliefs when designing online classes?

Spending time in Africa has provided me some insight into how strong culturally-driven barriers against online teaching and learning can be. For instance, as noted earlier, instruction in most of postcolonial Africa is a very teacher-centered activity,

which is contradictory to DE pedagogy. Also, the lack of effective planning, managing, and sustaining of DE initiatives makes it very difficult to move to the next generation of DE, so old means and methods prevail. There seems to be a lot of attention given to ITDE concepts, but when it comes to the actual implementation of these, complacency with the status quo, as well as an attitude that "Africa has so many problems" seems to stall any real progress toward innovation and change. The way that day-to-day business on a university campus in Africa is conducted is very much culturally-driven, and it is the same in a classroom or online course.

Q: What are some important contributions the field of ITDE has made to education?

One of the most significant, but unanticipated, consequences of DE has been to enhance face-to-face practices. It took many teachers a long time to get involved in ITDE, but when they do, most are positive about the approach and often end up applying new insights they learned from DE into their face-to-face courses. Also, as noted, though it cannot take all the credit, DE has advanced the notion of learner-centered pedagogy that has influenced instructional approaches in more conventional venues.

Q: What progress would you like to see in the future of distance education?

I have recently completed an essay which I've just submitted for publication that deals with a so-called "tipping point" for DE and asks if we are close to reaching this point. The piece suggests that when consumers of educational products choose a DE course over a face-to-face course, even when both are available; when providers are willing to state that their DE courses are as good or better than face-to-face courses; and when institutional planners and decision makers finally recognize that the future of higher education is not in

more classrooms and parking lots, then we may be edging closer to that elusive tipping point. That will be one way I might define future progress in DE.

Q: What do you think are the most important ethical principles that should guide the ITDE profession?

As I mentioned earlier, any DE professional should see him/herself as an educator first and foremost, and this should guide their practice. A secondary role should be that of being a leader, regardless of the specific job one holds in DE. The DE educator/leader must be guided by their own Principles of Good Practice, crafted as they mature in their career. Initially, they might accept the "truths" of the profession, as they have acquired these from other professionals; then as they mature, they should explore alternative "truths" by reflecting on their practice and seek ways to improve. Finally, the veteran DE professional ideally serves a role model for others, defining new "truths" that can guide others entering the profession.

Q: What is the most enjoyable feature of your career?

Despite all the struggles, I have enjoyed the role of "pioneer" far more than the typical academic role of "settler." There is something very satisfying about knowing you played a key role in creating a new program that might otherwise not have happened and its graduates might not have otherwise had that learning opportunity. This realization came to me 2-3 years ago while sitting through the lengthy commencement exercises of my university. To pass the time, I started counting all the graduates listed in the program who had completed their studies in one of the programs I had started; to my astonishment, the number was 41% of all graduates in that particular year, and that percentage has been fairly constant since then. This has got to be one of the peak experiences of anyone's career!

Q: When someone at a party asks you "What do you do for a living?," how do you summarize your occupation for someone who knows little about ITDE?

A colleague once referred to me in a complimentary way as the institution's "incubator" implying that I was the one person who was always concocting new ideas, and who also had the ability to operationalize those ideas into successful outcomes. But I usually don't refer to myself as an incubator; rather, I simply say I am involved in helping people have meaningful learning experiences without having to come to a campus at a fixed time and place and sit in rows of chairs and dutifully listen to a professor profess for an hour or two. I should also note that my role has changed in the past 10 years, so in an earlier period, I was more of an activist-administrator in the DE arena, while currently, I am more engaged in teaching, research, and writing in the field. I suspect my dear old mother still cannot to this day explain to her friends what exactly her son does for a living.

Q: What advice would you give to a student who wants to become involved in ITDE?

Recognize that this field, like others, has a distinct body of knowledge, including research, writing, and practice, which one must become familiar with to be a true professional.

Be resilient, have stamina, believe in what you are advocating, be articulate, have vision, build alliances, realize that the success may be modest, that recognition may be scarce.

Always be guided by the knowledge that you are doing important work, and

that you have the capacity to make a significant contribution to the field.

Q: Is there anything you would like to add that has not been mentioned?

No, it's all been covered, with excellent questions, and hopefully, worthwhile responses.

Q: We truly appreciate you giving us the opportunity to learn from you. Thank you for your time.

Thank you for the opportunity to share whatever wisdom I can impart regarding this exciting field.

CONCLUDING REMARKS

Michael Beaudoin is an innovator. He is an independent thinker who demonstrates the ability to understand and apply complex technical knowledge relevant to the field of ITDE. The fundamental ability to cope with a high degree of uncertainty early on in his career in a then uncertain field characterizes him as an innovator according to Rogers' Diffusion of innovation theory. Beaudoin is a true role model for other members in the ITDE domain. As members in the discipline continue to seek stabilizing forces in the professional community, Beaudoin can be called on to help set the agenda in the restructuring of the field.

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INTERVIEW

If ITDE is Romeo, Who is Juliet?

An Interview With Jeroen van Merrienboer

Elias Garcell and Diane Hobson

"Technology does not drive change—it enables change."

—Paul Saffo (Author, Essayist, Technology Forecaster)

If ITDE is Romeo, who is Juliet? It may seem strange to make such an analogy. The Shakespearean classic appears to have little to do with modern-day instructional technology and distance education. To envision Juliet checking out Romeo's MySpace page, and then e-mailing to ask, "O Romeo, Romeo, Wherefore art thou

Romeo?" seems to take away from the feeling of passion and longing Juliet portrayed during the famous balcony scene. However, as *Romeo and Juliet* has become a classic play that many high school graduates have come to understand, so has technology become less of a mystery and more entwined in our everyday society. *Romeo*



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and *Juliet* has other parallels to ITDE as well. The timeline of *Romeo and Juliet* moves quickly. They meet, fall in love, marry, and die in a matter of several days. Changes in instructional technology and distance education can also move quickly. With discoveries in new research and theories, combined with new technologies and a demand for online educational options, those in the field of ITDE must keep up with changes. *Romeo and Juliet* also seems to transcend cultures. It is set in Verona, Italy, written by an Englishman, and has been translated into many languages. ITDE also has the potential to bring many cultures together as it has the possibilities to be a key factor in the globalization of education. Lastly, *Romeo and Juliet* gives insight to how the ethical, or unethical, decisions made by characters in the play led to the final demise of the main characters. ITDE is also concerned with ethics in things such as copyright laws and intellectual property issues.

THE INTERVIEW

The issues of changes and trends, cultural and international issues, and ethics in the field of ITDE were the basis for the following interview with Jeroen van Merriënboer, a research expert in instructional design, and a professor of educational technology and educational psychology. Because of time-constraints and geographical barriers, the interview took place via e-mail. The following interview, while brief, allows the reader some access to some of the changes and issues occurring in the field of ITDE, and offers one answer to the question; If ITDE is *Romeo*, who is *Juliet*?

Q: *How long have you been involved in the field of ITDE?*

I have a master's degree in experimental psychology from the Free University of Amsterdam. I started my PhD research in the field of instructional technology in 1984—so that could be seen as the start of

my involvement in ITDE. My PhD supervisor was Sanne Dijkstra.

Q: *The field of ITDE has changed over time with expanded research and new technology, but how has the field of ITDE changed you since you have been involved with it?*

From the professional side, I have been trained to do research and that is what I still do. I would probably be equally happy if I were doing research in another field. So, you could say that not much has changed. From an interpersonal perspective, the main change is that I now have colleagues and good friends around the world. I really like the international character of doing scientific research and collaboration with colleagues from around the world.

Q: *From your perspective, what are three of the most noticeable trends in the field of ITDE?*

- Introduction of new technologies—noticeably the introduction of the Internet and nowadays mobile technologies.
- Change from objectives-driven ID approaches to approaches that start from real-life or realistic tasks.
- Increasing attention for self-regulation, self-directed learning, lifelong learning, etc.

Q: *Currently, what is your biggest concern within the field of ITDE on a national scale?*

In the Netherlands, there are nationwide innovations in the direction of self-regulated learning and competency-based education (introduction of the “Study House” in secondary preuniversity education, introduction of “competency-based learning” in junior and senior vocational education, etc.). The rash introduction of these innovations comes with risks, especially for lower-ability students because they often do not have the skills required to regulate their own learning processes

and plan their own learning trajectories. I guess the situation in the Netherlands is in this respect quite different from that in the USA, which seems to be more traditional.

Q: Would you say that concern is also of international importance?

No, I think this currently is mainly an issue in some European countries (Netherlands, Belgium, UK, some Scandinavian countries). But it may become an international issue in the future.

Q: Is there another concern that is more significant at the international level? Please explain.

Yes, it is somewhat related to social-constructivist approaches to instruction. Some of those approaches tend to offer too little guidance to students, with the risk that low-ability students are put at a disadvantage.

Q: ITDE has the capability to contribute to the globalization of education. What is going on in the field of ITDE to help ensure those involved in ITDE are aware of different cultural beliefs when designing online classes?

I am not very familiar with cultural issues in ITDE. I guess it is very difficult to take cultural differences into account when you are dealing with a heterogeneous group of students with different cultural backgrounds. The best way to go seems to use examples and learning tasks that are highly varied with regard to cultural values. But again, I am not an expert in this field.

Q: What are some important contributions the field of ITDE has made to education?

I think most important contributions have been in business, industry, and the military. The contributions to the general field of education are, in my opinion, quite limited. The main contribution may be related to the change from correspondence-based DE to e-learning. But one

might argue that this is more a technological innovation than the result of work going on in ITDE.

Q: What progress would you like to see with the future of distance education?

Flexibilisation. Making it much more attractive for lifelong learners. Taking Assessments of Prior Learning (APL) into account.

Q: What do you think are the most important ethical principles that should guide the ITDE profession?

I don't think they are much different from the ethical principles in other social sciences. My research group does its work in accordance with the ethical principles of the NERA (Netherlands Educational Research Association), which are not very different from those of the APA.

Q: What is the most enjoyable feature of your career?

The opportunity to work with my PhD students and to work together with colleagues and friends around the world (yes, I know, these are actually two enjoyable features).

Q: When someone at a party asks you "What do you do for a living?," how do you summarize your occupation for someone who knows little about ITDE?

I do research on how to teach people to perform complex tasks, such as flying an aircraft, performing surgery, or doing scientific research.

Q: If ITDE is Romeo, who (or what) would be Juliet?

Cognitive psychology, no doubt. But that is also because my roots are in experimental psychology.

Q: What are the most essential characteristics needed for a professional in the field of ITDE?

Difficult question, because I am a researcher and not a “professional” in the field of ITDE. I guess a professional must be well aware of research findings and recent models, be able to cooperate with many different stakeholders (clients, programmers, graphical artists), have project management skills, and have a clear vision on the role technologies can and cannot play in education.

Q: What advice would you give to a student who wants to become involved in ITDE?

Focus on the question of how people learn and which instructional methods may facilitate learning; technologies are always secondary in the sense that they are used to implement methods—technologies in themselves do not help learning. Doing research is, in my opinion, the best way to stimulate thinking about this question.

Q: Is there anything you would like to add that has not been mentioned?

I guess it is important to realize that the organization of the field of ITDE in the Netherlands is quite different from the way it is organized in other parts of the world. In the USA, for instance, there seems to be a strong distinction between instructional design/technology, learning sciences, and educational psychology. In the Netherlands, we do not have such a distinction: it is all more or less the same thing.

SUMMARY

There were many important ITDE issues that were addressed in this interview. In particular, van Merrienboer's perspectives on the changes in the trends in the field of ITDE, the risks associated with the rash introduction of innovations, social-constructivist approaches to instruction, and his advice to better understand how people learn, rather than focusing on the

technology, which van Merrienboer refers to as secondary. The three trends that van Merrienboer states are; introduction of new technologies, noticeably the introduction of the Internet; changes from an objective-driven ID approach to an approach that starts from real-life or realistic tasks; and the increasing attention for self-regulation, self-directed learning, and lifelong learning among others. Van Merrienboer points out that the rash introduction of innovations comes with associated risks, especially for students who may not have the skill sets to regulate their own learning process. Van Merrienboer expressed concerns with the social-constructivist approaches to instruction; he states that there is a “risk that low-ability students are put at a disadvantage.” According to van Merrienboer, a contribution from the field of ITDE to education in general is the shift from correspondence-based distance education to e-learning, although van Merrienboer also states it can be argued that technological innovation caused the shift rather than ITDE. Van Merrienboer also points out international concerns in ITDE and acknowledges that, on a national level, there may be other concerns because of cultural differences. Interestingly, van Merrienboer views cognitive psychology as the counterpart to ITDE in the *Romeo and Juliet* analogy. Lastly, van Merrienboer states that research should focus on how people learn, and the associated instructional methodologies needed to assist in the learning process. Van Merrienboer argues that “technologies themselves do not help learning.” One last observation about this interview: Dr. Merrienboer does not consider himself a professional in the field of ITDE, however, his perspectives and views would dictate otherwise.

CONCLUSION

As very few in the 1600s could have imagined the impact *Romeo and Juliet* would have on future literature and multimedia,

it is likely very few can fathom the impact the work being done in ITDE will have on the future of education and learning. While the underlying goal of education, to help students learn, will surely remain the focus, the way that education and learning is presented may change. As technologies continue to progress, new research about learning is discovered, and education

crosses geographical boundary lines, the education of tomorrow may look very different from the education of today. As quoted in *Hamlet*, another of Shakespeare's play, "Lord, we know what we are, but know not what we may be." Only the future will be able to show us the importance of the work presently being done in ITDE.



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Is Google Making Us Dumber?

Ryan Watkins

Tough question. From the best I can tell the answer depends on the task at hand. Google, along with several other Internet-based technologies, has notably transformed not only how we access information but also how we interact with others regarding information as well as how we create knowledge based on information. For many tasks, these

changes could easily lead us to the conclusion that people are becoming dumber thanks to tools like Google. After all, they have significantly altered the conventional competencies we routinely associate with success in modern society.

College students today, for example, rarely go to the library in search of books, periodicals, journals, and other traditional reference materials for use in their term papers. Instead they commonly rely on Internet search tools to find available wikis, blogs, podcasts, and other nontraditional sources of information. Sometimes they find accurate and worthwhile information to guide their thinking; often, however, they fail to even scratch the surface of the information, knowledge, and wisdom that is available, but not on the Internet. Limiting our ideas solely to those that are easily found online does little to advance our abilities to create knowledge from information. In this way, tools like Google may be making us dumber.

Our easy access to the vast amount of information available online provides us with a valuable, yet precarious, resource. While Google search results may provide us with quick access to information on most any topic, at most any time, from most any location; many of us are easily lulled into a false confidence regarding the



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quality and breadth of information we get back from our searches. We often forget that Google, as a private, for-profit company, is in the business of pushing content to us using the always coveted first-line-search-return that was routinely sold to the highest bidder. Likewise, online tools like Wikipedia can inflate our sense of information quality, as the openness of the tool, a characteristic that makes it especially comprehensive, can be its greatest liability when it comes to the quality of information.

Our false confidence in the quality of information available on the Internet may also come from a continuing perception that anything that is published must be of quality. After all, just 2 decades ago published media were limited to the tight controls of a few publishing companies that maintained a large staff of quality-control editors. Today, however, most anyone can publish their thoughts and ideas to the Internet; regardless of the quality, accuracy, biases, or other characteristics that each of us must weigh when determining what information we should use when making decisions or building knowledge.

Nevertheless, as we continually modernize the standards used to judge a person's capacity to be successful, we quickly find that tools such as Google are likewise transforming the corresponding competencies. The knowledge and skills that were precursors of success just a few years ago are no longer the minimal standards that we can apply today to judge competence. From selecting the right search tools for the task to accurately assessing the quality of information, the competencies

being developed by Internet users today may give them the capacity to be smarter than any generation in the past.

Developing effective skills for identifying, accessing, comprehending, analyzing, and evaluating information that is available online have therefore become essential to those who will be successful in our connected world. From efficiently using online library databases to applying systematic evaluation criteria to Web articles, the skill set of Google users must grow beyond keyword searches to include a comprehensive approach to managing the volume, quality, and usefulness of information that is now available.

In the future, as the traditional resources for building knowledge move into more publicly available online formats, tools like Google have the opportunity to expand access to information for people around the world. In doing this they can add valuable new dimensions to the standards we use to define a person's capacity for success; or, as is the case today, they can provide only a limited view of the information, knowledge, and wisdom the world has to offer. These are not, however, decisions for Google to make alone. As is characteristically the case with most Internet-based technologies, the users of the Internet will determine the fate of Google, the fate of knowledge, as well as the fate of our own intellects. When used poorly, tools like Google can limit our perspectives; when used wisely, these tools can complement, update, and even expand the information that we will hopefully transform into knowledge and wisdom to be shared with others.

- There is 24/7 technology support;
- There are academic advisers for distance education students;
- A systematic approach is applied to the growth and management of the distance education program;
- There are clear plans for the future of distance education;
- Evaluation of distance education courses and programs are used for continuous improvement; and
- Input from faculty and students is used for program improvement.

Of equal interest and importance are some of the most noteworthy “red flags.”

- There are two separate approaches, even mission statements for traditional and distance education;
- There are two target populations for traditional and distance education;
- There are two course approval processes for traditional and distance education;
- Distance education courses are designed using a “cookie-cutter” approach;
- Faculty attempt or are encouraged to directly convert traditional courses to distance delivered courses;
- There are two course evaluation systems, one for traditional and one for distance education;
- Some student services must be accessed face-to-face by distant students;
- Distant students are often confused about contact people at the institution;

- The institution has a history of started and stopped distance education programs;
- Few, other than administrators, know about the institution’s distance education program;
- There are a large number of distant students who drop out; and
- There are many complaints from distant students.

Obviously, it is important to read the report to clearly understand these two lists. The report also contains many other comments of the accrediting agency representatives. And, distance education can not be improved merely by using checklists. However, this report by the U.S. Department of Education is must reading for those dedicated to quality teaching and learning at a distance.

And finally, it is certainly a positive sign that so many organizations are offering suggestions, most based on research, not opinion, about improving quality in distance education—reports designed to produce quality without mandates, effectiveness without edicts, and performance without prescriptions.

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Accreditation and Quality in Distance Education

Michael Simonson

In March of 2006, the U.S. Department of Education's Office of Postsecondary Education released an interesting report titled "Evidence of Quality in Distance Education Programs Drawn from Interviews with the Accreditation Community." What is interesting and important about this document is the approach used to collect information: 12 accrediting organizations were asked to identify represen-

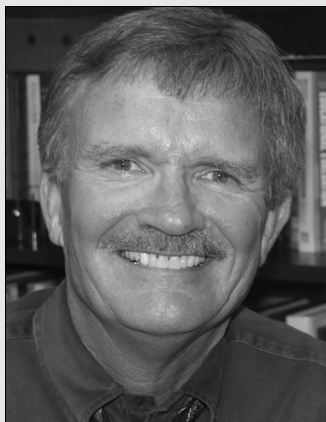
tatives who had served on evaluation teams for schools offering distance education programs. These representatives were asked to identify "Good Practices and Red Flags." Their comments make great reading for anyone interested in identifying quality strategies for teaching and learning at a distance.

The report is organized into six sections, each dealing with various indicators of quality. The six are Mission, Curriculum, Faculty, Students, Sustainability, and Evaluation and Assessment. In each category are dozens of indicators of quality and red flags—danger signs that often indicate a weak or ineffective distance education program.

Some of the most interesting positive indicators are:

- The mission statement contains an explicit statement of the purpose of distance education;
- The regular faculty have oversight of the distance education curriculum;
- The regular faculty are actively involved in course design;
- There is a strong and active faculty development process;
- The university provides instructional design support for distance education;

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