An Official Publication of the United States Distance Learning Association

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# The Florida Virtual School

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#### EDITOR

Michael Simonson simsmich@nsu.nova.edu

#### MANAGING EDITOR

Charles Schlosser cschloss@nsu.nova.edu

#### Assistant Editor

Anymir Orellana orellana@nsu.nova.edu

#### **COPY EDITOR**

Margaret Crawford mec@netins.net

#### **Association Editor**

John G. Flores jflores@usdla.org

#### PUBLISHER

Information Age Publishing 1600 North Community House Road, Ste. 250 Charlotte, NC 28277 (704) 752-9125 (704) 752-9113 Fax www.infoagepub.com

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United States Distance Learning Association 8 Winter Street, Suite 508 Boston MA 02108 800-275-5162 x11

#### **EDITORIAL OFFICES**

Fischler School of Education and Human Services Nova Southeastern Univeresity 1750 NE 167<sup>th</sup> St. North Miami Beach, FL 33162 954-262-8563 FAX 954-262-3905 simsmich@nova.edu

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Distance Learning ... for Educators, Trainers, and Leaders is undergoing a series of changes that will be explained in an upcoming issue.

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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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# **Florida Virtual School** Growing and Managing a Virtual Giant

#### **Kay Johnson**

In central Florida, Kaila Julia wants to be a nuclear physicist. In order to follow her dreams she needs an advance placement (AP) calculus course. When she could not fit the course into her schedule, she opted to take it online through Florida Virtual School (FLVS). David Marz, a junior in Volusia County, turned to FLVS when he was diagnosed last spring with bone cancer. By taking classes online, David can keep up with his classmates while he receives monthly chemotherapy treatments.



Kay Johnson, Marketing Manager, Florida Virtual School. Telephone: (941) 341-9725. E-mail: kjohnson@flvs.net

Stories like these are becoming common among K-12 students who now enjoy online learning options through their school, district, or state—and those options are growing rapidly. Though distance education has been offered in colleges and universities for quite some time, it has been slower to catch on in the K-12 sector. Happily for students, this is no longer the case.

Ten years ago, K-12 online learning options were reserved largely for remote areas, such as the Western provinces of Canada. There were very few K-12 initiatives in the United States, and funding or legislation to support distance learning was practically nonexistent.

Change came in 1997 from a southern state that, until recently, did not exactly conjure ideas of bold and progressive educational initiatives. Two counties in Florida were awarded a "Break the Mold" grant from the state. Designed to encourage innovation, the grant allowed Orange and Alachua counties to explore online learning as an option for K-12 students. Such was the beginning of Florida Virtual School, now one of the country's largest virtual and most widely lauded virtual initiatives for middle and high school students.

That first year, Florida Virtual School served just 77 enrollments. In 2005-06, it served more than 55,000, and it projects to reach almost 80,000 in 2006-07. Today, the school stands as a remarkable success model on many fronts, including funding, legislative reform, professional develop-

ment and, most important, student achievement. But FLVS has also provided something that educators across the nation need in order to create similar options in their area—a successful precedent.

How does an organization see such growth and success in such a relatively short time frame? "The organization is constantly pressuring itself to improve and innovate," notes Susan Patrick, president and chief exectutive officer of the National Council for Online Learning (NACOL), "It is inspiring in the sense that as FLVS realizes success, it puts effort into redevelopment, creating a constant cycle of innovation and improvement. That makes the program stand out."

Julie Young, president and chief exectutive officer of Florida Virtual School, believes that the ability to create policy rather than live within the bureaucratic structure of the school system gave FLVS the freedom to innovate. "Having the latitude to ... be driven by standards and student needs" versus a textbook was the fuel for innovation. The twin demands of standards and student needs continue to fuel the self-challenging ethic that is so much a part of the organization's cultural ethos.

Indeed, FLVS has raised the bar on itself several times. "In the early years, our completion rate was about 50%, and we thought that was pretty good because it was consistent with rates we heard from universities who were, at that time, much further into the online learning game," notes Phyllis Lentz, director of Global Services at FLVS. "The state, however, let us know that they really expected something different from us. They didn't need an option that was just like those that already existed. They needed something better."

So Florida Virtual School did something that schools don't often do: They asked students for input. In fact, student feedback has since become integral to the way FLVS conducts business. "What we learned from that feedback was invaluable in shaping our program," says Lentz. Over the course of the next few years the completion rate climbed to percentages in the 1990s. The rate fluctuates from year to year, but remains steadily above 80%.

Changes in expectations for teacher-student interaction came as a direct result of the student and parent surveys and eventually shaped the performance-driven funding model that now sustains the school.

#### PEOPLE, POLITICS, AND PARTNERSHIPS: RAISING FLVS

#### THE RIGHT PEOPLE

While a stubborn, student-centered focus is the "single direction that everything else can fall around," according to Young, it requires an equally focused staff to maintain that heading. Young believes that one of Florida Virtual School's biggest advantages was the ability to build rather than inherit a team. It allowed FLVS to hire teachers from the get-go who were passionate about change in order to reach students better.

Bruce Friend, vice president of NACOL, agrees. "When comparing FLVS to other programs, I tell people that the real difference is the instructional model and the quality of the staff. People make the difference. You can have the best online course, but the course isn't going to teach itself."

Finding the right people for a rapidly growing school, however, is a challenge. "We've provided a great deal of innovative opportunities and perks for our teachers," notes Pam Birtolo, chief learning officer. Indeed, while administrative jobs are the usual option to the classroom, at FLVS teachers can move into online content development, training, mentoring, and more. Birtolo and Jennifer Whiting, chief academic officer, note that the next generation of e-learning will see new levels of individualized content that can actually morph depending on the interactions and learning needs of the student. These



Figure 1. Growth at Florida Virtual School. Since 2001, FLVS has experienced triple-digit growth in course enrollments. In 2003, when FLVS became the first public school in the country to be funded purely on student performance, course more than doubled with successful completions remaining at 80% or better. Since inception in 1997, over 60,000 individual students have taken course with FLVS—a number that also continues to grow by double-digits annually.

changes provide exciting opportunities for innovative teachers who love to find new ways to reach students.

Teachers at FLVS also enjoy new levels of recognition for their accomplishments. Since the school itself is funded upon successful student completions, teachers who successfully reach students beyond the minimum requirement are rewarded monetarily in the form of a per-student bonus.

While financial rewards are certainly appealing, the chance to grow professionally is perhaps equally attractive. An extensive professional development and teacher support program has even veteran classroom teachers cheering. Veteran AP instructor Dianna Miller notes, "I find the support offered by the full-time mentoring staff invaluable to my ongoing growth as a virtual teacher." A "just in time" mentoring program that trains new staff for a full year provides new hires one-on-one daily support as they ramp up to the online environment. Thereafter, a combination of teacher-specific data feedback, teaming, and ongoing training keeps teachers at the top of their game. Teachers are very much in a fish bowl at FLVS in that instructional supervisors can view everything from when the last paper was graded to when the last call to a student was made. The idea, though, is to support teachers who may be struggling in order to ultimately help students succeed.

Interestingly, teachers seem to welcome the challenge. "Teachers are willing to give up tenure, go to an annual contract and be evaluated on performance," says Young, noting that this and a turnover rate of less than 3% is the greatest testimony to a fully committed staff that has jumped into the deep end and is actually enjoying it.

#### THE RIGHT POLITICAL TACTICS

Another factor in Florida Virtual School's success: political savvy. "Julie [Young] had the foresight to see that you not only have to manage your staff, but you have to manage up," notes Todd Hitchcock, vice president of FLVS Global Services. He notes that Young's remarkable ability to "navigate the political waters" was foundational to the school's success.

Indeed, funding and legislation are often noted as the top two barriers to the growth of online learning. It is particularly difficult to realize the benefits of online learning without stepping on sacred beliefs about local control. When the time came to move from line-item to a per-pupil funding model, Young and other FLVS leaders lobbied to be the first school ever to be funded strictly on performance. If the students don't succeed, the school isn't paid. Young's ability to meet challenges like this head-on has likely paved the way for other programs across the nation.

As Director of Global Services, Lentz works with many virtual programs across the country. "When I talk to other initiatives, there are two main factors that prevent success: lack of funding and no legislation that prevents schools from denying access to students." Lentz notes that the State's decision to provide free and guaranteed access to FLVS to all Florida students was a critical success factor.

#### THE RIGHT PARTNERS

Another component of success for FLVS was the adoption of a business management model. Equally important were partnerships created to nurture the model. FLVS has seen three notably successful partnerships: with IBM, Jones Education, and UCompass. Young believes the key to those successes was mutual dependence. "I always looked for partners with a shared vision, not just someone interested in selling us something, but also looking at moving our industry forward."

In the IBM partnership, the two organizations were aligned in a mission to take a leadership role and make a significant contribution to the industry. FLVS contracted with IBM at varying levels for the first 4 years and, according to Young "they were giving back to us the same amount in soft services. Each [side] had an equal voice into where we were going." The IBM partnership provided FLVS with business expertise, a critical need for an organization filled with educators. The same was true with Jones Knowledge, who owned the e-education platform that FLVS used at the time. Jones also provided business insights, marketing guidance, and sales support as FLVS made inroads into the national e-learning arena.

For UCompass, the company that owns and provides the current learning management platform, *Educator*, for Florida Virtual School, the win-win is in smarter product development. "FLVS provided intellectual capital and product feedback from practitioners in the K-12 e-learning field to Ed [Mansouri, owner of UCompass]," says Young. In return, Mansouri created a platform replete with customizations for FLVS.

When considering a business partner, Young looks for leadership within the partner organization, a shared vision for student-centeredness, and an opportunity for give-give and win-win for both sides. "At the end of the day, we need to have an asset if we are going to develop something with someone." That asset could be tangible—as in a product or service to be sold or intangible, such as market insights or increased reputation.

Hitchcock, vice president for global services adds that a "long haul" focus is critical. "If [both parties] know it's a long-term relationship, you'll both be more likely to respond to one another." He also recommends looking for partners with "a track record for being innovative in their products or their people."

FLVS thrived in the early days on the zeal of passionate educators. But as the organization grew, these same educators recognized the need for business partners to maintain the market-driven approach that has made the school successful. Young's advice to schools looking at similar partnerships? "Do your homework on the business you intend to partner with. Do not assume anything. Have a significant dating period prior to the engagement. Use an attorney no matter how much you like each other."

#### MOVING FORWARD: FACING THE GIANTS

## THE GIANTS OF SUCCESS

#### and Stability

Being hailed as a top leader has its challenges. When you reach the summit, it's naturally tempting to sit down and simply enjoy the view. It becomes imperative to adopt a set of performance indicators that can be measured and tracked. That input, along with solid business instincts, will provide for strong decision making.

FLVS uses a slew of data measurements to track grading turnover, teacher-student contact, or overall progress. Progress is tracked by students, courses, and teachers. Of course, the most important performance indicator for Young is always successful completions. But "soft" data are also collected and considered in the decision-making process. Young pays particular attention to daily e-mails from parents filled with "passionate gratitude," but even negative e-mails provide input for future decisions.

One question on the annual customer satisfaction surveys that Young likes to track is where students respond negatively or positively to the statement: "My teacher cares about me." Young also looks at things like feedback from students who drop courses. She wants to know why and would they recommend an FLVS course to a friend anyway?

In an organization where "change" is almost a mantra, knowing where to focus energy and resources becomes critical. Data management measures like these allow leadership at FLVS to keep the student as their focal point while making the areas needing change more obvious.

#### THE GIANT OF CHANGE

Change is a double-edged sword. On the one hand, it is critical to an organization that desires to morph itself to student needs. On the other hand, a growing organization needs to establish policies and procedures, often the death-knell to innovation, to support growth and scalability.

"There's a big risk in a large organization that the organization will begin to create policies for employees rather than for front-line customers," notes Birtolo. Hitchcock agrees, saying he hopes FLVS will maintain a "dating without getting married" approach to policy. "Schools get so mired in policy.... We need to never write another policy. Write plans, procedures guidelines that we can modify and adapt at any time, so if it doesn't work eight weeks from now, we can change."

Lentz adds that it is important to stress that change is a given. "Having the mental set is part of the battle. Then when things happen, you can just accept it for what it is. You just know it, and expect it." Young concurs, adding that the staff must understand that FLVS is a technology organization as well as an educational one. "We have to change to remain at the forefront. No one can get too comfortable, and they have to be okay with that."

Florida Virtual School expects to quadruple enrollments over the next few years, so it is indeed a juggling act to calm fears of change, create stable and scalable models, while at the same time working like mad to fan the flames of innovation. Whiting argues that being such a large organization can also be a curse to innovation, "We see ourselves in the press as being the biggest and first, but I want to be known as being the most innovative. And we're going to have to constantly reexamine what it will take to be the leader."

For Young, the challenge is to keep pushing everyone to reach higher. "I really do believe that good is the enemy to great. No matter how good you are—if something is working well, how can you make it better?"

#### FEARS AND PASSIONS

So if these leaders are not afraid of change, what *does* scare them? Internally, a loss of progressive thinking is a concern. Due to FLVS's tremendous growth and need to hire so many teachers so quickly, Whiting worries about bringing old ways of thinking into the FLVS culture. Birtolo concurs, "When you import hundreds of new teachers every year, you are importing all those practices that we wanted to get away from in the classroom."

And it is the disenfranchisement in America's classrooms that worries Young. "Many students indicate that they are tolerating [going to school] as a means to an end. In a recent student panel of what I would consider very successful students, they agreed that they are only engaged about 20% of the time and that they have to 'power down' to go to school."

Susan Patrick, whose role at NACOL provides an international viewpoint, is haunted by drop-out statistics. "We need to help people understand that it's not ok to have a third of our kids drop out. It's not okay to use tax dollars to support schools that are not providing quality learning. There are twenty-first century models of education, powered by e-learning, that are accelerating education in places like Singapore, Africa, Asia, and Europe. Singapore has 100% of its high schools online. It's not just about distance learning. It's about improving all of education. While we debate change-other countries are just moving forward."

Friend also worries about global competition. "I'm concerned when parents talk about online courses being 'too rigorous.' We know they are rigorous, and that's kind of the point. How do you take the fact that jobs are going to China, India, and Ireland from just being a news story to students seeing the reality of what that is?"

On the flip side, the leadership at FLVS is passionate about the promise that online learning affords. Young believes Florida Virtual School's role is to be an advocate for *all* students and for the entire online learning industry. "We were so supported in Florida. We were appropriately funded to do the research; we had the ability to take time to make mistakes and adjust. I've always felt that we have a responsibility to ... to make this a quality industry, to be at the policy table, to be an example."

The impact of online learning on individual students is also a powerful motivator for the staff at FLVS. "Students can go for a lifetime through school believing they aren't competent or capable," notes Lentz, "but for them to be able to work at their own pace and then realize that they *are* competent—how that changes their concept of themselves and their abilities—that really jazzes me when I hear a student make a comment like that."

Friend echoes this sentiment, noting the power of choice afforded by online learning-choices independent of having more money or moving to a better neighborhood. "I think that's awfully powerful for parents." In the broader scope, Friend argues that online learning meets every twenty-first century skills requirement "probably better than any educational venue in the country right now. Virtual schools have the ability to fundamentally change the way we deliver education and what it means to go to class. If you really believe that learning is all around you ... having the ability to reach students at any time, I don't think there's anything that can do this like online learning, and certainly FLVS is a leader."

# Who's Researching Virtual Schools A Case for Instructional Technologists

#### **Michael K. Barbour**

Over the past 11 years, virtual schooling has gone from isolated experiments to a reliable alternative to a brick and mortar education. However, during this time, little research has been conducted into how these learning opportunities are and should be provided to their adolescent audiences. Even more troubling is that very few of these researchers are from the field of instructional technology. In this article, I discuss those who have been involved in this early research and then make a case for the value that instructional technologists can bring to this emerging field.

ver the past decade, there has been tremendous growth in the research conducted into Webbased learning at the K-12 level. In recent



Michael K. Barbour, 604 Aderhold Hall, University of Georgia, Athens, GA 30605. Telephone: (706) 613-8894. E-mail: mkbarbour@gmail.com

years, the topic of virtual high schools has been the focus of much of this research. A number of individuals are researching in the area of virtual schooling. However, classifying these individuals into groups is not an easy task. There are practicing teachers, university faculty, and private researchers. They have been educated in a variety of programs from teacher education, to instructional technology, to educational administration, to adult education. They have come from a variety of backgrounds: the classroom, administration, the academy, private business, and research foundations.

The easiest approach to describing the kinds of people who are researching in the area of virtual high schools today is to describe some of these individuals and the work that they have been involved with, along with a discussion of the background of these individuals. While this discussion will endeavor to address as many individuals as are known to the author, including some of the theses and dissertations completed over the past 5 or 6

years, there are probably individual researchers who have been overlooked. Finally, this article will attempt to make a case that instructional technologists are well positioned to have an impact on this emerging field.

#### VIRTUAL SCHOOL RESEARCHERS

At present, probably the best known virtual schooling researcher is Tom Clark of TA Consulting, a small research and evaluation firm in Illinois. Clark is best known for his Virtual Schools: Status and Trends and Virtual High Schools: State of the States published in 2001 and 2000 respectively, along with his 2003 chapter "Virtual and Distance Education in American Schools" in the Handbook of Distance Education. Clark is primarily involved in evaluations and policy analyses with organizations such as the Illinois Virtual High School, WestEd Regional Technology in Education Consortium, and the North American Council on Online Learning. Clark's recent book, Virtual Schools: Planning for Success (Berge & Clark, 2005), is a good example of the policy slant of his work.

Two other long-standing researchers of virtual schooling are Andrew Zucker and Robert Kozma of SRI International. These two individuals led the team of researchers who conducted the external evaluations of the Virtual High School (VHS) project. Beginning in the 1997-98 school year, Zucker, Kozma, and their team began investigating all aspects of the federally funded VHS Project, including evaluating the implementation of the project, to assessing the quality of the online courses, to describing how teaching and learning occurred. In annual reports during the first three years, a report at the end of five years, and a separate report on the quality of VHS courses, these researchers produced more than 300 pages of publicly available data, interpretation, conclusions, and instruments dealing with one of the largest virtual school initiatives in North

America. Their overall conclusions were summarized in a book published in 2003, titled *The Virtual High School: Teaching Generation V.* 

Another researcher from a nonprofit research foundation is Robert Blomeyer of the North Central Regional Educational Laboratory (NCREL). Blomeyer began his work on technology in K-12 environments in the early 1980s with his work as a designer/developer on the PLATO system, an interest that continued as a faculty member at a number of postsecondary institutions. His first work on virtual schools was in 2001, when he published the policy brief "Virtual Schools and E-Learning in K-12 Environments: Emerging Policy and Practice" for NCREL. This work on virtual schooling has continued, primarily with a focus upon policy issues. Bill Thomas is another researcher based at a non-profit research foundation that has done considerable work on virtual schooling. With a focus upon policy, management, and instructional issues, Thomas has produced numerous policy briefs for the Southern Regional Education Board.

Shifting the focus from nonprofit research foundations to postsecondary institutions, a growing number of faculty are researching virtual schooling. One of the more prolific is Cathy Cavanaugh at Florida. the University of North Cavanaugh has conducted a series of meta-analyses into the effectiveness of virtual schooling and distance education at the K-12 level, along with research using a "Resources-Processes-Results" model to determine factors affecting success in K-12 distance education. She is editor of the recent book Development and Management of Virtual Schools: Issues and Trends, which examines the emergence of virtual schools, along with the benefits and challenges of administering, teaching, and learning in that environment.

Margaret Roblyer, at the University of Maryland University College, is another individual from a postsecondary environ-

ment conducting research into virtual schooling. Roblyer began her work, as have many others, by focusing on describing virtual schooling and comparing it to classroom-based schooling. However, her recent work has been based on the use of an educational success prediction instrument that is designed to predict success of virtual high school distance learners. Glenn Russell of Monash University in Australia has written a great deal about the implications of virtual schooling. Dennis Mulcahy of Memorial University of Newfoundland has written along a similar theme, although with his lens focused on rural education. His colleague at Memorial, Elizabeth Murphy, has recently written a number of pieces looking at the technology and pedagogy involved in synchronous instruction in a virtual school environment.

A third group of individuals who have been conducting research into virtual schools comes from within the K-12 system itself. Recent graduates such as Craig Butz, Del Litke, Rosina Smith, Christy Keeler, Sarah Haavind, Morris Cooze, and Eric Nippard have all completed theses or dissertations over the last 5 or 6 years that have been based on a variety of aspects of virtual schooling. Butz, who is executive director of the Odyssey Charter Schools, completed his dissertation on parent and student satisfaction with online education at the elementary and secondary levels. Litke, who completed his dissertation on perceptions of the strengths, weaknesses, and factors influencing students' success in the virtual school environment at the middle school level, is currently the deputy superintendent of Wolf Creek (Alberta) School Division. Smith completed her dissertation on the identification and assessment of factors accounting for success and failure in the implementation of virtual schools and is now the director of the Alberta Online Consortium. With a background as a classroom teacher, Keeler developed an instrument designed to provide a descriptive summary of Web-based courses in virtual schools. Haavind, a longtime collaborator with the Virtual High School, examined how design features and the instructor's actions prompted higher collaboration among learners in contentbased discussions. Finally, Cooze and Nippard, both virtual school teachers themselves, completed theses on the effects of student learning styles in virtual schools and the manifestation of social presence in synchronous virtual school instruction, respectively.

There have been others who have published research about various aspects of virtual schooling for limited periods of time. Bill Muirhead, of the University of Ontario Institute of Technology, completed research for his dissertation on virtual schooling, but has since shifted his focus to learning object repositories. Both Zane Berge and Mauri Collins, postsecondary faculty, have published on Web-based K-12 distance education in the past, as has Ken Stevens of Memorial University of Newfoundland. There are others, many of whom have authored chapters in Clark and Berge's Virtual Schools: Planning for Success and Virtual High Schools: State of the States or Cavanaugh's Development and Management of Virtual Schools: Issues and Trends, who have not been mentioned, including authors from a series of quantitative studies funded by NCREL (see http:// www.ncrel.org/tech/synthesis/index.html).

#### CLASSIFYING VIRTUAL SCHOOL RESEARCHERS

An easy way to describe the kinds of people who are doing most of the interesting work in the area of virtual high schools today is by the field of their current employment, as was done in the previous section. This method of classification reveals one professional evaluator, a series of researchers at nonprofit foundations and faculty at postsecondary institutions, and a smattering of individuals employed in the K–12 environment. However, this kind of classification is not that useful for those seeking guidance about the background that virtual schooling researchers possess.

Another way to classify these individuals is to look at where they have spent the majority of their careers. Individuals such as Kozma, Cavanaugh, Roblyer, Murphy, Berge, Collins, and Stevens have spent the majority of their professional careers within postsecondary institutions, whereas Clark, Blomeyer, Thomas, Russell, Mulcahy, Butz, Litke, Smith, Keeler, Cooze, Nippard, and Muirhead has spent significant time in a K-12 environment (with some as classroom teachers and others as school and district administrators). Yet another way to classify these individuals is by their degree program area. Blomeyer, Kozma, Cavanaugh, Roblyer, Russell, Smith, Berge, Cooze, and Nippard all completed their education in some form of instructional or educational technology. Litke, Keeler, and Haavind completed their studies in educational administration or educational policy. Thomas, Mulcahy, Murphy, Butz, and Stevens all completed their studies in a curriculum area within teacher education (such as curriculum and instruction, social studies or English education, or special education, to name a few), while Clark and Collins completed their studies in adult education.

This variety of professional and academic backgrounds has led to a diversity of perspectives being introduced into the research on virtual schooling. Those individuals with backgrounds in adult education, for example, are able to bring in ideas related to self-directed learning (which most of the literature on traditional distance education is based). Those from a policy or administrative background, on the other hand, are able to consider how virtual schooling affects the education system, while those from teacher education programs may be more interested in what virtual schooling looks like in practice. Based on these realities, there appears to be no one-best professional or academic background to approach research in virtual schooling.

#### A CASE FOR INSTRUCTIONAL TECHNOLOGISTS AS VIRTUAL SCHOOL RESEARCHERS

While there are individuals with a variety of backgrounds contributing to research on virtual schooling, I wish to make a case that instructional technologists should be conducting more research into and becoming more involved in the development of virtual schools. This is not to say that instructional technologists are of the only profession or the best profession to be engaged in this inquiry. However, those involved in the field of instructional technology have a great deal to offer to this area of research that has been noticeably absent to date.

Known by a variety of names (e.g., instructional technology, instructional systems, instructional systems design, instructional design and technology, etc.), instructional technology has also had many definitions. The most recently published definition by the Association for Educational Communications and Technology (AECT) states that "instructional technology is the theory and practice of design, development, utilization, management and evaluation of processes and resources for learning" (Seels & Richey, 1994, p. 1). Breaking down this definition into its component parts, Seels and Richey include "the theory and practice; of design, development, utilization, management and evaluation; of processes and resources; and for learning" (p. 9). The component parts of the definition provide a framework to discuss how instructional technologists can fill the gaps in the current research and development of virtual schooling.

According to Seels and Richey (1994), instructional technology possesses a "body of knowledge based on both research and experience" (p. 9). While this may be true

today, there is still a great deal of influence from other disciplines on the field of instructional technology, other disciplines such as "educational psychology, cognitive science, and computer science" (Oswald, 2002, p. 61). In a listing of professional organizations of interest to instructional technology professionals, Baumbach, Guynn, and Anglin (1995) include organizations such as the American Association for Adult and Continuing Education and the American Psychological Association. This diversity of influence on the field allows instructional technologists to employ theories, models, and concepts from other disciplines in their own research. For example, an instructional technologist could make use of theories such as the theory of transactional distance, which is based on selfdirected learning from adult education, in their research on virtual schooling. An instructional technologist could also utilize various theories of cognitive development from the field of educational psychology when investigating teaching and learning in a virtual school environment. A third option may be for an instructional technologist to utilize the theory of social presence from the field of communications. All three of these examples have largely been missing from the literature to date, but are all commonly used in the instructional technology literature.

The "design, development, utilization, management, and evaluation" component covers "both areas of the knowledge base and the functions performed by professionals in the field" (Seels & Richey, 1994, p. 11). It is in this area where instructional technologist can have the greatest impact on the development of virtual schools. At present, the design, development, and evaluation of many of the learning experiences in virtual schooling is being developed by teachers who possess a high level of subject matter expertise, but little experience with or fundamental understanding of instructional design and development. The field of instructional technology has a long and rich history with the creation, implementation, and refinement of numerous models of instructional design and development (see Gustafson & Branch, 2002, for a survey of various models). This kind of theoretical and practical expertise is likely to be useful for many "would-be" virtual school course developers who lack these skills.

Seels and Richey (1994), when discussing the process portion of the "process and resources" component, state that "there are both design and delivery processes" (p. 12). In terms of the development of virtual school experiences, the knowledge of the design process possessed by instructional technologists would be quite useful in the development of everything from individual learning objects to entire courses. When considering research into virtual schooling, the interest in various teaching strategies and their relationship to particular types of media utilized by the virtual school and types of learning that the students might engage in are within the realm of the field of instructional technology.

The final component of the definition is a focus on learning. Seels and Richey (1994) state that this was done "to emphasize learning outcomes and clarify that learning is the goal and that instruction is a means to learning" (p. 12). With the exception of instructional technology researchers like Roblyer and Cavanaugh, a focus on learning is also largely absent from the literature on virtual schooling (although this is starting to change with the recently funded NCREL studies). This focus on learning in virtual school research is consistent with what instructional technologist Thomas Reeves describes as socially responsible research—or "research that would 'make a difference'" (Reeves, 1995). The focus on learning that instructional technologists can bring to research on virtual schooling may serve to make the difference in the educational opportunities that virtual schooling is supposed to provide to students.

#### CONCLUSIONS

At present, there are a variety of individuals from a number of professional and academic backgrounds conducting research on virtual schooling. While some of these individuals are instructional technologists, there is a need for a greater level of participation by those in the field to take full advantage of everything that instructional technology has to offer to the research and development of virtual schooling. Some of the elements that can be shaped by the theory and practice of instructional technology, such as "the type of instructional content, the nature of the learner, the organization in which instruction occurs, the capabilities of available tools, and the expertise of the teacher" (Seels & Richey, 1994, p. 96), which reads like a list of research that is needed in virtual schooling. Recently, AECT released a new definition of the field that states "educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources" (R. Branch, personal communication, June 17, 2004), the term educational technology being utilized to be consistent with the term used in the organization's own name (i.e., Association for Educational Communications and Technology). Even within this newer framework, instructional technologists are still well positioned to be leaders in the research and development of virtual schooling.

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# An Overview of the U.S. Navy Sustaining Distance Training

#### **Derek Takara and Zane L. Berge**

he U.S. Navy has been conducting a major reorganization using plans and strategies collectively called Sea Power 21 (Clark, 2002) that are heavily dependant on a high-technology environment. Admiral Vern Clark recently completed his assignment as the chief of naval operations (CNO), the Navy's top military leadership position. He was the first CNO to have an MBA degree (Clark, 2004a) and his business process knowledge, along with the transformational initiatives of the Secretary of Defense, set in motion revolu-

tionary efforts that are transforming or replacing traditional Navy systems, using successful business philosophies and methodologies.

Driven by top leadership, the development of personnel capabilities is recognized as crucial for "mission accomplishment," and so individual training in the U.S. Navy has significantly increased in importance and become a significant consideration in the planning, development, and operation of the "workplace." E-learning, along with related concepts of



Derek A. Takara is a career U.S. Navy officer, specializing in logistics. He is enrolled in a Master of Distance Education program at the University of Maryland.



Zane L. Berge, Associate Professor, Instructional Systems Development Graduate Program at the University of Maryland Baltimore County, 1000 Hilltop Circle, Baltimore, MD 21250. E-mail: berge@umbc.edu

knowledge management and distance training, has been wholly embraced by senior leadership and is becoming an integral part of the workspace, along with technological capability, at a phenomenal pace.

#### **COMMUNICATING THE VISION**

The U.S. Navy has over 350,000 active duty personnel and 130,000 Ready Reserve. There are regularly over 30,000 personnel deployed (away from their home base or station) at any given time. The Navy also has over 175,000 civilian employees. All of these personnel are an essential part of the Navy's mission, and accomplish their tasks from over 280 ships and a great many bases and stations throughout the continental United States and numerous foreign countries, (U.S. Navy, Status of the Navy, n.d.). Communication and coordination can appear to be a phenomenal feat, but it is achieved regularly and more and more effectively as capabilities, processes and procedures improve, following guidance promulgated from the top.

The Navy's long-term vision is encapsulated in Sea Power 21, the Navy's transformational strategy used to develop operational and organizational processes, policies, and related strategies. It is "global in scope, fully joint in execution, and dedicated to transformation" (Clark, 2002). It communicates the vision on how the Navy will "organize, integrate, and transform," and consists of three fundamental concepts that will ensure the Navy continues as the supreme military seapower force in the future: Sea Strike, Sea Shield, and Sea Basing. Sea Strike enables projection of offensive power from the sea, Sea Shield extends defensive assurance throughout the world, and Sea Basing enhances operational independence and support for the joint force. Sea Power 21 also provides the critical concept of FORCEnet, which will enable information management (through technological capability) among the three

fundamental concepts, and empower all Navy personnel.

#### FROM THE TOP

Given the size and geographical dispersion of the Navy, a distance learning program capability is critical, and recognized in top leadership guidance. Each year, the chief of naval operations publishes an annual document, titled CNO Guidance for [year] which provides an overview on the Navy vision and mission, and assigns critical tasks or milestones to specific organization elements. This year's multipage guidance includes: Develop a postgraduate education strategy centered around the Naval Postgraduate School's resident and distance *learning programs* (italics added) that fully leverages Joint service, inter-agency, and international curricula (Mullen, 2005).

But that is just a small part of the initiative to match skills (and education, and provide training and "just in time" information) to the position. The CNO's 8 Tenets (*What I believe: Eight Tenets That Guide My Vision for the 21st Century Navy*) are further guidance intended for use by Navy leadership. Admiral Mullen (2006), current CNO, stated

New opportunities and security challenges require new skills.... They must also be supported by the right information at the right time.... In a world of growing global connectivity, the volume of information we are able to collect matters less than our ability to identify and understand what is important. Sailors must learn to recognize what matters, to comprehend the implications of the information they gather, and then act on it instantly, with the right capabilities.

This broader concept on personnel skills is supported through a number of initiatives, including FORCEnet (for the technological capability) and what has been termed the Human Capital Strategy or "Strategy for our People" (Clark, 2004b).

#### STRATEGIC SCOPE

The Navy's Strategy for our People has several stated objectives, which may be paraphrased as:

- Develop a competency-focused workforce to link individual knowledge and abilities to demands.
- Align organizations, strategies, policies, and processes to effectively manage the total workforce.
- Attract, retain, and incentivize an optimal workforce (active, reserve, civilian). Set performance expectations against measurable organizational goals.
- Maximize the contribution of every individual. Create opportunities for growth and development while fostering work-life balance.
- Achieve greater diversity throughout the total force workforce.

The strategy, discussed by the Assistant Secretary of the Navy, Manpower and Reserve Affairs in 2004 (Navas, 2004) is to modernize manpower and personnel systems, integrate active and reserve military and civilian systems and coordinate separate manpower initiatives into a single strategically managed plan. It will provide the guidance and tools to assess, train, distribute, and develop the Navy's work force and will also provide use of temporary help (i.e., contractor), which can provide skill sets not available in the permanent work force. The strategy will also provide an expanded opportunity for professional and personal growth, while attempting to maximize technology development and implementation to reduce workload, with all efforts aimed at supporting current and future mission accomplishment.

#### **INCLUDE THE INDIVIDUAL**

A coordinating program called Sea Warrior connects the individual sailor with the

parts of the organization responsible for training, education, and career-management systems. The primary interface is Navy Knowledge Online (NKO), a well developed Web-based resource that is available to all Navy personnel. It provides the ability to create Individual Development Plans, provides the opportunity to take many different e-learning courses (a combination of off-the-shelf and Navydeveloped), and creates areas for "communities of practice" to share relevant information. It also provides links to certain personnel supporting services (such as admin and pay).

Approximately 4,000 e-learning courses are accessible by 1.2 million Navy, Marine, Department of the Navy (DoN) civilian employees, and dependents. Provided at no cost to the registered user, of which there were 450,000 as of November 2004, are courses in project management, business, desktop, simulation exercises, and foreign languages. In the active duty Navy, NKO creates the conduit between training and uninterrupted operational capability (Persons, 2004)

The Sea Warrior's organizational goal is to provide the Navy the capability to assess, train, and assign (all) personnel to ensure their best contribution to the mission. Sea Warrior's key objectives are summarized (U.S. Navy, 2006) as:

- Make career information and tools readily available to personnel for career-development.
- Combine the strengths of the current manpower, personnel, training, and education responsibilities into one aligned and centrally managed and resourced organization.
- Enable the Navy to create an agile market-like approach to career management, where sailors "compete" in a dynamic marketplace and provide the right skills to the right place.

#### **DEDICATED INFRASTRUCTURE**

Berge (2001) wrote: "Along with a strategic planning process, there are management processes such as budgeting, infrastructure development and maintenance, communication, workforce development, and policy making that are used to change the fabric of the organization in desired ways" (p. 22). To enable Sea Warrior, the Navy is undergoing an enormous organizational change to integrate its manpower, personnel, training, and education systems (referred to as MPT&E) into a single "enterprise" (meaning one funding resource) with coordinated "business" processes (Hoewing, 2005).

The Navy's MPT&E enterprise has several key supporting suborganizations. The Naval Education and Training Command (NETC) was established in mid-March 2003 in Pensacola, Florida, to oversee Naval education and training. This activity was created using relevant portions of existing organizations. It will provide strategy, policy, and resource guidance, and allow intermediate activities to manage the execution of relevant training. Most importantly, it reports directly to the CNO (top leadership), which demonstrates its relative importance to the whole organization. NETC activities are staffed by approximately 22,000 military and civilian personnel at more than 190 facilities worldwide. Each day, an average of nearly 40,000 officer, enlisted, and civilian government employees train in more than 3,600 different courses offered through NETC (Goodwin, 2003).

Another training command that has recognized and embraced e-learning as a means to train and enrich without sacrificing time and capability is the Naval Network Warfare Command (NETWARCOM). Their vision is to integrate warfighting and business operations—to fight and win in the information age. It will

act as the Navy's central operational authority for space, information technol-

ogy requirements, network and information operations in support of Naval forces afloat and ashore; to operate a secure and interoperable Naval Network that will enable effects-based operations and innovation; to coordinate and assess the Navy operational requirements for and use of network/command and control/information technology/information operations and space; to serve as the operational forces' advocate in the development and fielding of information technology, information operations and space and to perform such other functions and tasks as may be directed by higher authority. (U.S. Navy, 2006)

In pursuing its objectives, NETWARCOM impacts the technological capability required for distant learning.

#### **SUPPORTING SYSTEMS**

The most critical implement for the availability and delivery of individual training is the Navy Marine Corps Intranet (NMCI), which is considered the largest corporate intranet in the world (U.S. Navy, DON CIO, 2006). It provides the Department of the Navy and all its (shore) personnel with a full range of network-based information services on a single, enterprisewide intranet. Eventually, the massive network will link more than 350,000 workstations and laptops for Navy and Marine Corps users in the United States and permanent sites in foreign countries. A summary from the limited access NMCI Homeport Web site (www.homeport.navy.mil [limited access]):

NMCI applies the speed and might of world-class Internet technology to everything from performing routine administrative tasks to facilitating global communications and logistics during wartime. This program of unprecedented scale ensures the secure and reliable transmission of voice, video and data information worldwide, helping the Navy and Marine Corps meet the following critical objectives:

- Enhancing network security
- Ensuring interoperability across commands and with other services
- Facilitating knowledge-sharing around the globe
- Increasing productivity
- Improving systems reliability and quality of services
- Reducing the cost of voice, video and data services.

NMCI is a key component of FORCEnet, the DoN's strategy for implementing network-centric warfare, and it supports the DoD's goals for information technology superiority. In addition to moving the DoN to an e-business model, with common corporate applications and databases, NMCI supports new processes and technologies, such as knowledge management, distance learning and telemedicine to improve the quality of life for sailors, Marines and the DoN's civilian employees and support personnel.

#### **SUPPORTING WORKFORCE**

The technology, both hardware and software, and the personnel trained in the application of technology that are needed to achieve the Navy's information management (and personnel development, FORCEnet, and MNCI, etc.) requirements are coordinated through the office of the Department of the Navy's Chief Information Officer, or the "DON CIO" (U.S. Navy, DON CIO, 2006). The DON includes the office of the Secretary of the Navy, who is senior to the CNO. As the Navy advocate for IM/IT initiatives to the Department of Defense, the DON CIO has become one of the integral authorities for Navy requirements. From this office, the increased training opportunities through e-learning were conceived.

The DON CIO produces an annual publication that provides the DON's Information Management (IM) and Information Technology Strategic Plan, and provides the vision and addresses the change needed to achieve it (U.S. Navy, DON CIO, 2006). Summarizing from the DON CIO Web site (U.S. Navy, DON CIO, n.d.), the DON CIO is devoted to IM/IT Workforce Competency Management (competencies are defined as knowledge, skills, abilities, and behaviors). Using an enterprise approach to managing the IM/IT workforce, it provides a strategy for leveraging human (IM/IT) capital by considering four key issues:

- recruit, retain, and train the IM/IT/KM workforce needed to fulfill core capabilities,
- establish IM/IT/KM competency guidelines for the non-IM/IT/KM workforce,
- develop IM cognitive skills through integrative competencies, and
- *ensure the IT infrastructure will support eLearning* (italics added), document best practices, and expand the use of eLearning technologies.

The DON CIO has created several teams to work focus areas. It is the sole responsibility of one of these teams, the Knowledge Management Team, to author, monitor, and safeguard DoN policy on portals, content management, information management, and related areas (U.S. Navy, DON CIO, n.d., Knowledge Management). Additional portal development undertakings are also the purview of the team: Task Force Web, an early initiative designed to Web-enable all essential Navy applications and databases; Navy Knowledge Online; and the Navy Marine Corps portal, which forms the basis of the Navy, have been established to encourage collaboration and knowledge sharing within the DoN and with other agencies and activities. Supported and promoted at the topmost levels of the Navy and Defense departments, the growth and expansion of these undertakings are integral to increased distance learning capabilities within the Navy.

#### SUPPORTING CULTURE: LOCAL IM FLEXIBILITY

The strategy and policy provided by the DON CIO and CNO are also used by other Navy suborganizations to create IM capabilities tailored for their mission needs, adding only those resources required (or allowed).

For example: the Navy Supply Systems Command (NSSC) with headquarters in Mechanicsburg, PA

is responsible to provide U.S. Naval forces with quality supplies and services. Employing a worldwide workforce of more than 24,000 military and civilian personnel, NAVSUP oversees logistics programs in the areas of supply operations, conventional ordnance, contracting, resale, fuel, transportation and security assistance. In addition, NAVSUP is responsible for quality of life issues for our naval forces, including food service, postal services, Navy Exchanges and movement of household goods. (Source: http://www.navsup.navy.mil/portal/ page?\_pageid=477,261535&\_dad=p5star & schema=P5STAR)

NSSC has a Command Information Office, which is an intermediary with the DON CIO that interprets policy for NSSC senior leadership and provides their input to DON initiatives. It develops, coordinates, and disseminates a shared strategic vision among the NSSC's top-level management and information activities to champion the organization's information initiatives to effectively manage information and provide for information systems that add value to the organization. It also provides technical advice to ensure information technology is acquired and information resources are managed in a manner that best supports the organization and meets any associated legislative requirements, such as specific information reporting requirements (Source: http:// www.navsup.navy.mil/portal/

page?\_pageid=477,267309,477\_267592&\_d ad=p5star&\_schema=P5STAR).

Using the technology and IT professionals trained by the DON's IM/IT initiatives, NSSC has created its own intranet for local information and training relevant to its business needs, and has provided what it calls the NAVSUP Collaboration site which allows NSSC employees the ability to easily communicate and share information in a secure, Web-based environment. "It can be accessed by any device-desktop, laptop, or PDA-that uses an HTML-based browser. Users can host online discussions, share and revise documents and files online, conduct virtual meetings, and so forth. NAVSUP Collaboration facilitates business processes such as: Knowledge Management, Project Management Communities of Practice, and elearning" (source). This technology and foresight goes well beyond the once-worshipped, yet still essential video teleconference for transmitting information and training.

#### CONCLUSION: IMPORTANCE OF STRATEGIC POLICY

After reviewing numerous e-learning related case studies, Berge (2001) noted that cases focused on using sustained distance training to achieve organizational goals concentrated on workforce development, infrastructure, and budget as success tools, but they appeared to neglect the aspect of company policy.

One key to the success of initiatives in the integration and implementation [of] technology-enhanced learning and distance education is the support of the organization's top leaders.... The most important function of organizational leadership may be to create a shared vision that includes widespread input and support ... articulates a clear training or educational purpose, had validity for all stakeholders, and reflects the broader mission of the organization. Both top-down and bottom-up support is needed for successful, sustained distance training and education at the higher stages of organizational capability. In addition to the establishment of a vision, leaders link strategic planning and specific program implementation and monitoring using such tools as budgeting, infrastructure development, communication, workforce development, and policy revision. (p. 351)

Navy leadership is clearly achieving those activities on a recurring basis. The Navy's ability to manage information, including the NSSC intranet capability and others like it, is made possible and successful through top-down support and clear, well communicated strategies and effective policies that are enabled through coordinated resource requests. A necessity for a large, dispersed organization to share effectively and efficiently share a common capability.

The precepts that have guided the evolution of Navy e-learning are sound. The development of the Navy's distance learning program has been uphill, but remarkably, lessons learned have been lessons heeded. The most important strategic step into providing enterprise-wide e-learning via IM/IT has been the development of the Navy Marine Corps Intranet, which has allowed a single system to provide whatever had been made available to whoever needs it when it is needed. Without this advancement, each individual command throughout the system would have been on its own to plan and develop training models. Distance learning would clearly have taken a back seat and the subsequent successes would not exist.

A continuous effort is called for, to link project management, program management, change management and strategic planning (Berge & Smith, 2000). This has been undertaken within the Navy and the enterprise has continued to sustain change and restructuring, following guidance from top leadership, and is building elearning capabilities into the fabric of the organization.

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# Blogging With Graduate Students

#### **Melanie L. Buffington**

#### INTRODUCTION

Blogs are mainstream, with 39% of American adults reading blogs and 8% keeping a blog (Lenhart & Fox, 2006). An increasing number of educators use blogs with their students in different ways. Two semesters in a row, I used a blog with art education graduate students with vastly different results. In this article, I describe blogs, my introduction to them, and their increasing popularity. Following that, I explore the ways I used blogs with two groups of graduate students, discuss the experiences, and offer my thoughts about the reasons for the experiences. I



Melanie L. Buffington, Assistant Professor, Department of Art Education, Virginia Commonwealth University, 812 W. Franklin St., P.O. Box 843084, Richmond, VA 23284-3084. Telephone: (804) 828-3805. E-mail: mbuffington@vcu.edu

conclude with my thoughts as to why the experiences were different and offer suggestions for others who wish to use blogs with their students.

#### **DEVELOPMENT OF BLOGS**

The exact origin of blogs, also known as weblogs, is not entirely clear. Barger (1997) is often credited with the first use of the term "web log" which was shortened to "blog" in 1999 by Merholz (2002). Writing in a blog is termed "blogging" and the word "blogosphere" refers to all of the blogs on the Internet (Ferdig & Trammell, 2004). Though blogs exist on virtually every topic, they exhibit similar characteristics including:

- Automatic formatting of content in the form of "headlines," followed by "entries," or "stories";
- Time- and date-stamp of entries;
- Archiving of past entries;
- A search function to search through all entries;
- A "blogroll"—a list of other blogs read by the author(s) of the current blog;
- A section associated with each entry where readers can post comments on the entry; and
- Simple syndication of the site content via RSS (Really Simple Syndication) (Martindale & Wiley, 2005, p. 56.)

According to Technorati.com, the blogosphere doubles approximately every 5 to 7 months (Sifry, 2006). Like many others, my introduction to blogs occurred in March of 2003 during the early days of the U.S. invasion of Iraq. A story on National Public Radio described a blog kept by a young Iraqi architect that intrigued me enough to start reading. Titled Salam Pax, a combination of the Latin and Arabic words for peace, his blog quickly became popular around the world. Through this blog, he chronicled many events in his life; one touching entry dealt with his sadness when he saw that one of his favorite buildings in Baghdad had been destroyed by bombs.

As I grew more interested in blogs, I investigated how others educators used them and found blogs that involved K-12 students (Downes, 2004; Poling, 2006), college students (Kapur, 2003; Williams & Jacobs, 2004), academics (Glenn, 2003), and a brief discussion of blogs as part of research (blogsperiment, n.d.). The uses of blogs as a research tool intrigued me because there seemed to be much potential but little information. As Mortensen and Walker (2001) noted, "Traditionally, research and publication have been kept separate. Research blogs are not a final product but an indexical sign of the research process itself." As a qualitative researcher with theoretical groundings in postmodern thought, the idea that the process, research the researcher's thoughts, and the publication process could be combined through a blog was quite appealing.

#### **BLOGGING AND RESEARCH**

In the winter of 2005, I worked with two graduate students as their thesis advisor and introduced them to blogs (on the blog our usernames were our first initials only, thus, I use them in this article to identify the different posts and responses). We met face-to-face every 2 weeks and communicated through the blog. The blog we used was created with Moveable Type and was accessible to anyone who could locate it online. However, we were the only ones with the permission to make posts or comments. Blogging was voluntary for both students and it had no impact on their grades. Our blog started slowly, with a few test posts and discussions of passwords and the functionality of the blog. As time went on, the posts changed to questions about the research process, testing out focus group questions, analyzing data, and generating theories about data. Additionally, the blog became a place to share successes and challenges with both the academic portions of thesis writing as well as the intellectual and family challenges of negotiating the thesis process.

#### **BLOGGING SUCCESS**

Working with these students and using a blog was both enjoyable and educational. Through our discussions about the use of the blog, my notes on the process, and my continued reading and thinking about the process, two main themes emerged about why it worked well for us. The first theme, the structure of the blog, includes its informal tone, its organized and chronological nature, and its limited focus. The second theme, the support of social interaction, includes the feedback and support students received along the way, the ways the blog supplemented our face-to-face meetings, the small size of our group, and the students' similar motivations.

#### STRUCTURE OF THE BLOG

Through our discussions and my notes about the process, three themes emerged related to the structure of the blog and how that contributed to our success; the themes are the informality, the organization, and its focus. When we began, we agreed that the blog was an informal space and would have no bearing on the students' grades. One of the students mentioned how this informality, as contrasted with the formality of the traditional thesis format, helped her think, generate ideas, and receive feedback, knowing that she could focus only on the ideas and not worry about spelling, punctuation, grammar, formatting, and so forth. As contrasted to submitting a chapter of a thesis for me to review, the entries on the blog ranged in length from a few words to many paragraphs. This informality in tone, ideas, format, and length led to freedom to express ideas in emergent states and to experiment with alternate themes in data analysis.

Because of its inherently organized structure, students recorded their thoughts as they planned and conducted their research on the blog. When they wanted to rethink an idea or revisit a decision, their thoughts were still available, in reverse chronological order. An example of this comes from a post by S and a response by N that discussed questions S planned to use for her focus group:

February 16, 2005 Focus Group questions

This needs some editing but I want my girls to talk more about peer groups, name calling and academic performance.

Focus group questions:

- 1. Explain why traditional high school didn't work for you.
- 2. Explain the influence your friends or enemies had on your academic performance.
- 3. Explain where you think you fell in the social scene of your middle school and high school.
- 4. Did other girls bully you by them calling you names or did you bully girls? Explain.
- 5. What are signs of peer pressure and how do you think you've overcome them?
- 6. Have you ever been in an abusive relationship with a friend or friends?
- 7. What do you think a peer influence is?

Let me know what you think. Posted by S at 09:56 PM Comments (4) In response, the other student, N, posted the following:

I really like question #1 & #7. I think if you start with these 2 you might get all of the information you are looking for. #2-6 were addressed in your individual interview. If you ask them the same question twice or have them repeat what they have already told you they may think you are not taking them seriously or not listening to them. —Just my point of view!

Posted by N at February 23, 2005 04:57 PM

When S wrote about the development of her focus group questions in the methodology chapter of her thesis, she referred back to her initial post and our ensuing comments and was able to include details about the development of her questions. The organizational structure of the blog, with the posts and comments, allowed us to offer suggestions and feedback on research issues in an organized manner. Unlike face-to-face conversations, all of our interactions were recorded and available for additional consideration, clarification, or updating at any time. This organization assisted students significantly when they wrote up the results of their research.

This blog was narrowly focused on a specific topic, the research that S and N were conducting, providing all of us with a general framework for our responses. Though we did not approach the blog specifically as a research journal, I believe that there is significant potential to use it as such, especially with collaborative research. Creating this "space" within cyberspace for a specific, limited purpose helped this experience succeed by setting parameters for the blog, our interactions, and our comments.

#### **SUPPORTING SOCIAL INTERACTIONS**

In addition to the structural aspects of this blog, it also supported social interactions between and among us, an aspect of blogs widely hailed (Sifry, 2006). When considering the specific ways this blog fostered social interactions, the most salient ideas are the support the students received along the way, the manner in which the blog supplemented our face-to-face meetings, the small number of people involved, and the students' motivational level. Through the blog, we were able to offer support and feedback to each other during this process. There were times when the "other" responsibilities in the students' lives seemed overwhelming and insurmountable, as exemplified in a post by S:

March 14, 2005 Stress

I'm not getting any real work done. Even now I'm trying to write this Steve is saying he can't get Jacob to bed and Jacob is hiding under my legs. Sometimes I feel like I have it together and I can get work done. Days like today which seem to be very frequent this semester I sit and look at my work and feel like I can't do it. I can't finish. My steps are so little I'm feeling hopeless. I think sometimes I should drop this semester....

Posted by S at 08:05 PM Comments (1)

Through the blog, S shared her frustrations and struggles and we offered support, suggestions, and guidance. The blog also provided a place to share excitement and successes with people who understood the research process. After the first day of a lesson for her research involving media images, N posted the following:

April 06, 2005 First Day of Lesson

Today I showed the first part of the images and had the students respond to them in writing. It went really well.... We spent the entire art class on the lesson,

which involved mostly writing for them, but I don't think the students minded. By the end of the hour I still had a lot of hands up of students who wanted to respond to each other and to the responses they wrote. This experience was very exciting today and I was amazed at the responses of the students-I felt they understood the reason why I am discussing this with them.

Posted by n at 01:20 PM Comments (2)

This accessibility and contact in between our face-to-face meetings certainly helped the students maintain momentum while writing their theses and maintain a connection to others who understood the thesis experience. As an advisor, the blog also let me know when it was time to check in with them, when the students were encouraging each other, and when I needed to offer more feedback.

In addition to providing a place to share experiences, the blog also supplemented our face-to-face interactions. Both of these students lived a considerable distance from campus, held public school teaching jobs, and commuted to the university for their graduate courses and meetings with me. Thus, we met infrequently. During our face-to-face meetings, we discussed theories, data analysis, other research, etc. On many occasions, we started a conversation in person and then continued it later on the blog. Additionally, we also used the blog during our face-to-face meetings to refer to past ideas and entries. Throughout the semester, the blog supported what we did in person, and often there was a dynamic relationship between our face-toface and blog-mediated interactions.

The small number of students involved in this project enabled the social support to be meaningful. At a very practical level, the number of posts was never overwhelming and, because of our small number, we were able to thoughtfully consider each post and our responses to it. Also, having two students who interacted on the blog and in face-to-face meetings promoted a sense of teamwork, collaboration, and a genuine interest in the well-being and success of the other student.

The two students involved knew each other before the semester began and shared similar ideas about teaching and learning. Their motivation for earning a master's degree in art education was more than the pay raise from their school districts. They both share a dedication to improving their teaching and enjoy personal growth and learning. This intrinsic motivation and their interest in working together led to collaboration and support through the blog. Throughout this experience, we were continually pleasantly surprised by the results of the blog, how it worked to support social interactions, and how its structure benefited all of us involved.

#### **BLOGGING WITH A CLASS**

Buoyed by the positive results from the previous semester, I used another blog the following semester, Summer 2005, with a class. This summer graduate class dealt with a newer and somewhat controversial topic in art education, visual culture. The 12 graduate students enrolled in the class met for 1 week on campus and had a final project due 3 weeks later. To ensure that the students continued to think about the topic during these three weeks, I required that they post to the class blog and assigned 5% of their grade to this. All the students worked as art teachers in public or private schools and some knew each other previously. Some of the students were actively seeking degrees in art education, some were working on degrees in other areas, and others were taking the class for their continuing education requirements. During the time on campus, all students learned how to use the blog and we had a few exchanges about topics from class through the blog. In the following three weeks, most students completed the required entries on the blog; however, the results were lackluster when compared to the previous semester's experience

#### **BLOGGING CHALLENGES**

Though there were a few students who wrote insightful postings and comments, in general, the student entries on the blog and the ensuing comments seemed to be forced and did not exhibit much interest in the topic or in using the blog. Some students posted several times within a day or two to meet the requirements and then did not return to the blog in the remaining weeks of the course. Other students seemingly posted their thoughts without reading the thoughts of others and never responded to another post.

The most surprising part of this blog experience was that a student posted a comment that contained racially insensitive and outdated language. As a teacher, this raised numerous issues that I had not previously considered with regard to blogs. Primarily, I was concerned with letting all the students in the class know that though this student thought he was promoting an idea backed by anthropologists, the words he used and the underlying concept was outdated, now widely rejected, and based on pseudoscience. Had his comments occurred in a face-to-face classroom setting, I would have immediately responded with the entire class present. However, because this was posted on the blog after the end of the formal class, I could not control who read his initial post or my response. Though I could tell who accessed which posts and comments and when, I had no way of knowing what the students actually read versus which links they merely clicked. None of the other students made any comments that indicated their belief that the initial post was inappropriate or offensive. Additionally, none of them made any further posts on the topic after my response to the initial post.

As I reflect on the experience and use the posts to theorize the differences between these experiences, two main aspects are paramount—the motivation of the students and the size of the class. The students enrolled in the summer class were interested in earning their credits quickly and did not necessarily prioritize learning and continuing the dialog from class.

The size of the summer class made following the posts and comments cumbersome for all participants. Though some students did not make the required number of posts, following several threads at a time with numerous subsequent comments and posts proved to be challenging. Also, many of these posts did not relate to the thread in which they were posted or simply were the comments of one person "talking at" the class rather than reading and responding to a previous post. Based upon the two experiences with students and my further reading about other uses of blogs, I developed suggestions for successful uses of blogs in higher education.

#### **SUGGESTIONS**

Based on my experiences using blogs with graduate students, I offer the following suggestions for others who are interested in using this technology:

- Let students know that a blog is not meant to be a "soliloquy board" (K. Helms, personal communication, July 27, 2006) and that the concept will not work if they do not read and respond to the comments of others;
- Use a blog with a smaller number of students, perhaps two to four students. This will keep the number of posts to follow and respond to at a manageable level;
- Use a blog with students who are clearly dedicated to learning, highly motivated, and want to grow intellectually;

- Create the blog on a topic and include some parameters about appropriate posts;
- Use the blog as an ungraded space for the expression of ideas and emerging thoughts; and
- Encourage students to make thoughtful and meaningful comments.

#### **C**ONCLUSIONS

Though these experiences yielded vastly different results, they were both valuable experiences. As I develop future plans for incorporating online communication tools into my teaching, I continue to reflect back upon the blogs. Luckily, I can still refer to the posts, my comments, and student comments as I theorize these experiences. Thus, these blogs provided research data for me and also helped me develop plans for integrating technology into my teaching.

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Volume 4, Issue 1



# How to Create an Effective Interinstitutional, Transdisciplinary Online Faculty

Susan Fey, Mary Emery, and Cornelia Flora

eveloping a supportive, energized faculty can be challenging at any time; creating an energized, productive faculty across universities requires a carefully thought-out plan. In this article, we report on the creation of new online faculty cobbled from six universities in different states. This project began with some preliminary meetings among interested faculty to determine the feasibility of developing an interinstitutional, transdisciplinary master's degree in community development. These meetings led to a successful grant application for a U.S. Department of Agriculture higher education challenge grant and the launching of new degree program.

Since 2004, the North Central Regional Center for Rural Development (NCRCRD) has provided leadership for the Commu-



Susan Fey, Program Coordinator, North Central Regional Center for Rural Development, Iowa State University, 107 Curtiss Hall, Ames, Iowa 50011. Telephone: M, T (515) 294-6250; W, T (515) 238-5128. E-mail: susanfey@iastate.edu Web: www.ncrcrd.iastate.edu



Mary Emery, Associate Director, North Central Regional Center for Rural Development, Iowa State University, 107 Curtiss Hall, Ames, Iowa 50011. Telephone: (515) 294-2878. E-mail: memery@iastate.edu Web: www.ncrcrd.iastate.edu

nity Development On-line Master's Program. This interinstitutional, asynchronous online degree program offered through the Great Plains Interactive Distance Education Alliance (IDEA) includes faculty from six universities: Iowa State University, North Dakota State University, Kansas State University, South Dakota State University, the University of Missouri, and the University of Nebraska. Additionally, these faculty members represent a range of disciplines: sociology, archiplanning, tecture, Native American studies, economics, and natural resource management. When the program began, some of the faculty knew each other personally or by professional reputation, but many were not acquainted with one another. Because our program development design included faculty teams assigned to the development of specific courses, we needed to help them learn to know each other and develop successful teamwork strategies. In order to create these teams and get commitment to the overall program plan, we had to overcome



Cornelia Flora, Director, North Central Regional Center for Rural Development, Iowa State University, 107 Curtiss Hall, Ames, Iowa 50011. Telephone: (515) 294-8321. E-mail: cflora@iastate.edu Web: www.ncrcrd.iastate.edu

both the geographical distance from one another and the different disciplinary foundations with which each faculty person approached this work. While we did have funding for yearly face-to-face meetings, most of the course development took place by e-mail and conference call. Thus, our first task was to consider strategies to begin to build a community within the faculty. In addition to the challenges wrought by distance and discipline, the faculty also included some people with many years of experience in distance education and some who were somewhat skeptical of the technology and the program. Some faculty participated as an overload, adding lack of time to the potential barriers. Finally, everyone came from different institutional environments, as all universities vary in their policies and procedures. We knew that building an atmosphere of confidence and collaboration was vital. We also had to facilitate discussion and agreement on the core competencies around which curriculum would be developed, address faculty governance, ensure faculty had access to the technical assistance and training they needed to be successful, and address assessment issues.

#### FACILITATING AGREEMENT ON CORE COMPETENCIES AND GOVERNANCE

In deciding how to go about creating an effective new faculty across distance and discipline, we choose to use an approach informed by Appreciative Inquiry. Appreciative Inquiry (AI), developed by David Cooperrider (1990), began as an approach to helping corporations develop their competitive edge, increase productivity, and enhance their bottom line. Since that specialized beginning, the use of the approach has grown into a worldwide movement. The emphasis on "appreciative" focuses attention on those things in the environment that are working well; for example, the positives in your teaching of community development knowledge and skills.

"Inquiry" refers to the quest for new knowledge and understanding. In the inquiry, we rely on the stories people tell about the positive things that are occurring in their lives and their institutions to understand how things work. In AI, participants search for understanding of what is currently working well and dig deep to broaden that understanding by identifying the factors or conditions that lead to success. This discovery of the positive core of what is working is the first D in the 4D AI process. Their wishes for the future provide both the content and inspiration in the quest for new knowledge and positive social change leading to the second D, *dream*, where people consider how things could work even better. The third D, design, focuses on identifying the strategies and conditions that can lead to the dream. The last D, delivery or destiny, is the actual work toward a more positive future. This approach guided us as we designed the first and subsequent meetings. AI can be used in an iterative process; thus, we have used that same process to learn from the first year's successes leading to many program enhancements. Many resources for AI are available at

#### http://appreciativeinquiry.case.edu/

While some of the faculty had met during the feasibility stage of our work and others had joined us on conference calls, our first step in building a virtual faculty was having them meet face to face. The center staff worked with the staff at Great Plains IDEA to set up a 2-day meeting in Kansas City for October 2004. All of the faculty members involved also teach on campus at their respective universities, so we worked with them to find dates they could easily be away from campus. Despite these efforts, some faculty were unable to attend the whole time and others had to find people to cover their classes, or develop alternative assignments for students. None of the faculty members mentioned that this was a problem because we gave them ample notice. The grant paid travel costs

for the faculty and staff to travel to this organizational meeting, making it easier for everyone to attend, as some of their institutions were not ready to invest in this seemingly high-risk venture.

In preparation for this first meeting, we worked specifically on team-building and overall program design using an Appreciative Inquiry approach. Thus, we created activities around discovering what worked in distance education and community development education, dreaming about what an ideal community development program would look like, designing that program, and planning for action to implement the program. We also provided many opportunities for small group dialogue, so people could get to know each other. In addition, course development teams worked on the curricula during the meeting, and then shared the results of their deliberations with the entire faculty.

The first question we asked the faculty was "What excites you?" and they talked openly about their passions, ranging from teaching to a commitment to bettering rural America. This opportunity to share ideas created an open atmosphere where people developed trust and learned from one another. Later on that same day, one of the questions we asked them to consider was, "If you could envision the best faculty ever, what would it look like?" This question led them to list the following: interdisciplinary, civility, mutually supportive, openness and respect and difference, purposeful relationship building, common place to share ideas, social interaction with a wise person in the mix to direct the discussion, common goals, sense of mission, collaborative, win-win situation for funding, enthusiastic, party virtually, sense of community, and scholarship of integration with rewards and mutual support.

As the faculty crafted this list, they were also crafting the way they wanted to interact with one another as a faculty. Together they formed this list of goals and standards for their virtual faculty, and they did so in
an extremely positive, productive way using the AI approach. Other questions they discussed included, "What are the exciting elements of student learning in this program?" and "What competencies will students have after taking our classes?" These small-group discussions offered the faculty time to really think about what a graduate of this program would look like in terms of what they learned from the program. Some of the things that came out of these discussions included:

- Make sure students learn the role of economy in community;
- Focus on process as well as product;
- Community developers make things happen!;
- Students get enlightenment about what they are doing;
- Students develop skills to lead communities;
- Students learn about government roles in community development;
- Students learn new approaches to community development for the purpose of putting them into practice—Action!;
- Build leaders; and
- Create a vehicle for a message of hope for rural America.

These ideas were also posted in the room for faculty members to look at and reflect upon throughout the meeting.

At this first meeting, faculty members also voted on the ways things would work in the program. How would new faculty enter? How would new classes be added? Who is the faculty chair? All of these discussions were closely guided by the staff from the Great Plains IDEA, as they had experience in these governance issues with these areas from other existing programs. These discussions led to the completion of the faculty guide and business plan for the program. These first discussions have been revisited in later meetings, but the core of these initial discussions has guided our efforts.

Toward the end of the meeting, course teams met and made decisions about curriculum. Some teams were more productive than others, but all came away with goals for the future. The program would be comprised of five core courses and six tracks of electives; later, these were reduced to three tracks for the program start up. After the meeting, team conference calls were set up by the staff at NCR-CRD, and curriculum planning continued; by fall of 2005, we offered the first courses through the Community Development Master's Program. As the courses came together, so did the faculty. It was obvious in subsequent phone calls and face-to-face meetings that there is a deep appreciation for one another and that people believed in the program. Faculty members ask one another to guest lecture in their classrooms. These things did not happen quickly or even easily, but because we began the program by identifying strengths and developing strategies that built on them, the program is now up and running successfully. By making sure that the faculty was meeting and talking regularly, we saw them come together as a faculty with new relationships that have a life of their own. Our leadership and the assetbased approach were key to getting things going. As time progressed, it was obvious that they felt comfortable enough to visit one another's virtual offices and classrooms and ask for ideas or share solutions to issues in the classroom.

Since the first meeting, we have greatly improved communication with the faculty and we have created a newsletter for the program that has a faculty spotlight in every other issue. This newsletter is targeted to the students and faculty in the master's program, and it has created more excitement around the great things that faculty members are doing. The newsletter is available at http://www.ncrcrd.iastate .edu/distancedegree/index.htm Faculty members routinely offer positive feedback about the program in these articles:

This degree program makes it possible for us to offer a top-notch program, due to our collaboration with other universities. It also makes it possible to reach non-traditional students. The program allows us to build on the multiple strengths of faculty and students from all over the nation. And isn't that what every university seeks to do? —Meredith Redlin, Professor, South Dakota State University

### ENSURING ACCESS TO TECHNICAL ASSISTANCE AND TRAINING

Parker, Lyne, Tierney, and Barrett (2005) discuss the importance of faculty having the skills necessary for successfully teaching online courses and access to the technology used to teach. In their work with a virtual nursing program, they had face-toface meetings and met via email to promote collaboration and outline roles and responsibilities. We used a similar method, relying, however, on more virtual meetings. We also included opportunities for faculty to share successful strategies for teaching online, and we provided support for online classes in teaching with technology. Faculty members who had never taught a distance education course were mentored by those who had taught distance education, and they sought these relationships at meetings.

This relationship building created a community, or as Wenger (1999) puts it, a "competent membership" within the faculty. Wenger points out that this memberships includes:

- Mutual engagement: the ability to establish relationships in which mutuality is the basis for an identity of participation.
- Joint enterprise: the ability to understand ongoing enterprises deeply enough to contribute to their pursuit.

• Shared repertoire: the ability to make use of routines, words, ways of doing things, stories, concepts, and so forth, produced by the community.

Building a faculty community was an important element to this program because of the content and mission of the program.

### **Addressing Assessment Issues**

A third challenge for us was working with faculty to address the identification of competencies and our strategies for assessment. Many of the faculty teaching in this program have taught a long time, and the current focus on creating a coherent set of competencies and identifying how students will develop them and how we can assess student ability was new to them. To address this issue, we hired a consultant to provide training by conference call to faculty and designed a strategy for creating a competency grid. As faculty worked on their courses, they were able to fill in most of the squares on the grid.

### **LESSONS LEARNED**

Our collective journey toward creating and sustaining a successful and energetic faculty engaged in the masters' program offers lessons we wish to share with others. While there are yet few interinstitutional degree programs, we know that planning is underway to expand these types of programs. Continued budget pressure with institutions and increases in both the demand for advanced degrees and the costs of on-site programs will lead to a stronger trend toward interinstitutional cooperation. Thus, we offer the following list of practical strategies to those planning to initiate such an effort:

1. Start the program off with a face-toface meeting that is facilitated by a trained professional who is competent in generating dialogue and asset-based approaches.

- 2. Before the program can evolve, people need to build trust within the group and be able to put faces to names when they see them online in e-mail.
- 3. Create a faculty listserv where ideas can be shared and notifications and information can be posted.
- 4. When the program begins, make sure that curriculum teams for courses are meeting on the phone at least once a month and perhaps a few times in person.
- 5. Offer mini-grants for course development with travel included, so teams can meet and discuss their courses.
- 6. Elect institutional representatives who can make decisions when they are needed, and hold virtual meetings twice a semester with this group.
- 7. Elect a faculty chair.
- 8. Have at least one face-to-face faculty meeting each year and at least three faculty teleconferences each year to alleviate confusion and promote communication.
- 9. After courses finish, make sure that summaries are sent out to all faculty from the instructor of the class. This sharing of experiences is a great way for everyone to learn from one another when it is their time to teach.
- 10. Offer faculty ways to learn online too! Joseph Levine from the University of Michigan offers outstanding online courses that are reasonably priced. Many of our faculty members took the class to learn more about teaching distance education and hone their skills.
- 11. Create a faculty guide and a business guide that you can refer to for decisions. When someone is asking about bringing in new faculty or courses, these references remind all about previous agreements.

Building excitement for the program and creating a collaborative environment where faculty members appreciated and respect each other is the most important part of building a virtual faculty. Building relationships takes time, and issues always arise that require some troubleshooting, but when people know one another well through getting enthused about each other's work, community building is much easier. As courses are taught and relationships are developed with students, the faculty is more apt to call on one another for advice. Interestingly, a great deal of the discussion revolves around pedagogy and building a learning community among the students, who provide the faculty with ongoing motivation and inspiration.

There have been excellent opportunities to learn from others in the program from the basics of effectiveness in distance delivery to the current, substantive issues in curriculum development for CD. —Bruce Johnson, Professor, University of Nebraska

Comments like this show that it is possible for a virtual faculty to collaborate with one another on a program, just as they would on campus. Taking time to make sure they meet and talk on a regular basis, as well as approaching the team building process positively, helped to create a strong, dedicated faculty for the Community Development On-line Master's Program.

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## E-mail Protocol and Online Learning

### Sandi Grandberry

### INTRODUCTION

s distance learning, online learning, and hybrid courses become prevalent, unexpected more problems arise and solutions must be formulated. Many problems have been recognized and solved. Some are recognized, but no effective solutions have been formulated. The problems that appear to be addressed first are technical, not personal. This would lead to the conclusion that many student-based recurring problems that are not being adequately addressed comprise the overall problem of alternative learning-student education on appropri-



Sandi Grandberry, Adjunct Professor, Phoenix College, and Online Adjunct Professor at San Jaquin Delta College, 5130 W. Baseline, Ste. 117-16, Laveen, AZ 85339. Telephone: (602) 617-3374. E-mail: sandi@fortheloveofsoftware.com

ate and effective computer use, is highly lacking. This article will discuss one of the problems related to this overall problem and offer some solutions.

### THE PROBLEM

While distance learning has existed for many years, the problems unique to the use of the Internet are new and becoming more evident with the increase in its use for educational purposes. Many problems have been identified, such as accommodating the handicapped, addressing different cultural needs, keeping assessment requirements the same for distance and traditional learning, ease of cheating in distance learning, time zone differences, solving the need for hands-on lab work, special needs of auditory learners, students' lack of technical knowledge, and communication protocol for e-mail messages, including clarity of intent on the part of the sender and understanding on the part of the recipient.

There are many challenges to appropriate e-mail communication; for instance, the tone of writing can be mistaken for the wrong meaning or that facts given without explanation can be taken as a strict statement or belief on the part of the writer when, in reality, the writer is simply providing research information found, and other e-mail protocols.

Researchers from New York and Kentucky discuss the importance of proper e-mail communication in the classroom, "students' active participation is essential for learning to occur.... In e-mail communication, this includes both an understanding of the purpose of the activity and a willingness and motivation to take part in it" (Liqing & Boulware, 2002). As adults are introduced to this new method of communication, they have no background in the field and there is a shortage of instruction available to assist them when signing up for alternative learning that requires e-mail communication.

### SOLUTIONS

There are many solutions to this problem for adult learners. Solutions such as a prerequisite class on e-mail use and etiquette, tutorials available online, interactive computer-based training, and so on. These are short-term solutions almost like putting one's finger in the hole in the dike. It will stop the flow of water, but something must be done to make the problem go away on a more permanent and stable basis.

Instruction on computer use should begin in elementary school. If students, starting in elementary school, were taught to use e-mail, they would grow to adulthood owning the skill. This would be a more permanent and stable solution to a growing problem.

In a study conducted with second graders, it was found that everyone benefited from teaching the students proper use of e-mail communication. The teacher was able to give individual instruction and feedback to the students, the parents eagerly participated, the students learned to use this method of communication to discuss parts of books they particularly enjoyed, and the researchers could communicate directly with students to give them praise for a job well done. In a case described by Liqing and Bouleware (2002), second-grade students came to class excited to find out if "I have a message from Dr. Boulware or Dr. Tao?" and, then when an e-mail arrived, "Look, Dr. Boulware says she likes my book."

These young students made progress in more than just mastery of the skill of using e-mail, but in sentence structure and general communication of their ideas. As one low achieving student wrote at the beginning of the study, "My favort book is ACROSS THE STREAM By Mirra Ginsburg. You shude try to read this book it is a very, very good book becouas it has good character's" (Liqing & Bouleware, 2002). Later in the study, the same student wrote: "I am reading a book called NEVER SPIT ON YOUR SHOES it is a good book. It has good characters like the other book. Called ACROSS THE STREAM. My favrorrit chater is a mouse but it didn't minchin his name" (Liqing & Boulware, 2002, p. 287). While the spelling did not improve much, the ability to communicate definitely improved. The positive self-image of the student shows through. The sentence structure and general composition of the paragraph is a great improvement in the later communication. This student will move toward college with a confidence and ability in e-mail communication that will aid in distance education, if the student chooses that path.

In another instance, a distance learning program was set up to give a diploma in probation studies. There were three loops in preparing for this degree program. The first, as expected, was technology, the second was issues related to the university, and the third was trainee issues. The third loop included evidence of a lack of confidence in e-mail use, not only on the part of the students, but also on the part of the administrators:

As we are unsure if and when trainees will pick up e-mails, the Programme Administrator and I are currently backing up all messages with a hard copy. Obviously, this is defeating the purpose of e-mail and inadvertently undermining this approach! (Sunderland, 2002) In addition to a lack of experience with the art of e-mail communication, the students appear to have a lack of comfort with computer use in general. The only solution this institution came up with was discussing the problem with managers and placing the problem on the continuing problem list.

An article from the University of Nebraska at Omaha discusses some scenarios of miscommunication through email and offers a five-step solution for adults learning this new technique that consists of five questions. Their model focuses on problem solving; however, if authors of e-mails will ask themselves similar simple questions when sending out electronic communication, many instances of miscommunication could be avoided. The five questions are:

- Question 1: what is the problem?
- Question 2: what makes it a problem?
- Question 3: what can be done?
- Question 4: what should be done?
- Question 5: what will be done? (Grandgenett & Grandgenett, 2001)

Alternate questions could include: What is the purpose of this message? Why am I sending this message? Does this message clearly state my thoughts? Is my intent clear? If the e-mail communication can clearly answer these questions, it has a greater chance of being a successful e-mail.

### CONCLUSION

The need for education on effective e-mail communication is a problem that cannot be ignored as the field of education moves more and more toward electronic means for education. As a short-term solution, simple procedures should be provided to each student taking classes requiring e-mail communication. These simple procedures cannot replace actual training, but can assist the struggling student. Included in the simple procedures should be such things as:

- Making a final reading of the message, reading from the point of view of the receiver.
- Asking yourself: Is the tone okay? Can it be misinterpreted? Have I clearly stated what is intended?

Until student education on appropriate and effective computer use is an integral part of all education, students must be selfmotivated to find out for themselves how to effectively communicate by e-mail.

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HEAD

## The Voice of the Online Graduate Student Solutions for a Better Experience

### **Karan Powell**

"We can believe that we know where the world should go. But unless we're in touch with our customers, our model of the world can diverge from reality. There's no substitute for innovation, of course, but innovation is no substitute for being in touch, either."

-Steve Ballmer, CEO, Microsoft

istance educators lack the faceto-face interaction characteristic in brick-and-mortar universities, and so are constantly challenged to "see" the true learning experiences of their online students—and to use this knowl-



Karan Powell, vice president and academic dean, American Military University. E-mail: kpowell@apus.edu

edge to provide the best possible learning experience.

At American Military University (AMU) —a 100% distance learning institution with more than 20,000 students studying in 130 countries—we take this challenge very seriously. Our origins lie in providing relevant and affordable education to the military. Today, we serve more than 6,000 graduate students, with special emphasis on serving professionals in the military, national security and public safety sectors, and beyond. Many students have more than 15 years experience in their professions.

Each morning, key members of our academics, student services, and operations teams meet to discuss student issues or experiences from the previous day. Some issues may affect only that individual, while others may have a much wider reach. The team leaves these 10- to 15minute meetings with a solution or a resolve to find a solution. Ideas are also brought forward into future strategic planning meetings. The real result, however, is that the student voice is heard-and heard immediately. More broadly, AMU educators and services team members connect with the students through the typical university course and program surveys.

We also recently went a step further in listening to our students-and keeping their comments at the forefront of our decision-making and planning discussions. During the summer of 2006, we surveyed current AMU graduate students and graduates who attended the university between 2003 and 2005. We wanted to gain deeper insight into the overall graduate student experience. We were pleased to learn our students wanted to tell us their stories. More than 700 of those surveyed (13.46%) completed the questionnaire. Responses came from Afghanistan, Iraq, Timo, Cuba, Okinawa, Germany, Italy, Muscat, Oman, Bahrain, Kuwait, Bosnia, Iceland, submerged in the Pacific Ocean, Southwest Asia, South Caribbean Sea, Kabul, Saudi Arabia, Turkey, across the United States, and more.

### **GRADUATE SURVEY**

We asked our students about the strengths and weaknesses of completing a graduate degree online. We also probed for a greater understanding of the value of flexibility, self-discipline, and characteristics of the overall learning environment. In addition, we structured our questions to better understand the similarities and differences between online institutions and traditional brick-and-mortar universities. Table 1 presents the initial findings—findings that can provide insights for all distanced educators as they strive to understand their students.

### **SUCCESS FACTORS**

#### FLEXIBILITY

Flexibility was a predominant theme across student responses. Graduate students must integrate study into an already busy personal and professional life. This is especially true of those serving in the armed forces. This comment was representative of many:

I appreciated being able to work on courses at times and in environments

Table 1. Respondent Data	Table 1.	<b>Respondent Data</b>
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	%
Age of AMU student in survey	
22–30	20.9
31–40	38.0
41–50	28.5
51–60	8.7
61+	2.0
Gender of AMU student in survey	
Male	74.8
Female	25.2
Undergraduate Degree Experience	
4 year brick and mortar, traditional	81.1
2 year brick and mortar, traditional	10.1
BA, 100% online	4.9
BA with some online courses	15.7
Never attended a class online	15.3
Business and Professional Development	
Experience Prior to Attending the	
University	
Participated in online education through work	40.9
Attended online seminar for personal/ professional development	25.0
Never attended online classes or seminars	45.8

conducive to my own learning. I don't work as well in the restrictiveness of a traditional classroom. It was available to me anytime, anywhere, even in the middle of the night.

We must continue to recognize the importance of flexibility to the ongoing success of online institutions and their students. Continued improvement of programs, policies, and initiatives can enhance student flexibility. It is important to remain student-focused as a university grows and matures.

### Professors and the Learning Environment

Professor commitment, excellence in teaching, and attention to students and their needs are characteristics of online and traditional universities. Teachers make the difference, as this student says: Outstanding professors ... chose excellent course materials and provided outstanding and motivating feedback. This interaction is essential in the online arena where face-to face-contact is not possible and allows the student the full academic and intellectual experience.

Three factors rise to the top regarding success in the online learning environment: interaction, feedback, and real world relevancy and applicability. Professors must find creative ways to actively engage their students—maybe with more frequent online discussions or by adding more group assignments.

Feedback is also important. Replace face-to-face interaction with extensive written feedback and guidance on papers and assignments, in discussion boards, etc.

Finally, practicality and relevancy are critical factors. At AMU, we use "real life" simulation exercises, current case studies, and commission reports, such as that of the 9/11 Commission, to bring the real world into the classroom. Students are then asked to critique, reflect, and analyze using knowledge from the class. The simulation exercises also help engage the online student.

### SELF-DISCIPLINE

Respondents remarked frequently about the importance of self-discipline and personal commitment to success in an online environment. As one student commented, "Self-discipline is paramount. The desire to study has to come from within." This is not surprising. Without the requirements of attending a class at a certain time, students must motivate themselves to stay engaged in their coursework.

### CHALLENGES TO OVERCOME

The lack of face-to-face interaction between students and professors still seems to be a common frustration for online students—and one of distance learning's greatest challenges. One student said that online classrooms "are limited in their ability to capture the energy of a traditional classroom."

I suspect that, over time, this will become less of an issue. Younger generations are growing up interacting in the "virtual" world and are becoming more comfortable with technology. They do not miss face-to-face interaction in the same way. It is a part of their everyday life and learning experience. Baby boomers are also becoming more and more computer literate. As this population ages, more individuals return to school and online education becomes a way for them to be connected and to continue learning. It will be interesting to observe responses to online education over the next decade to note changes as young people today enter college, then graduate school, and as baby boomers reach retirement.

Perhaps our next greatest challenge involves staying innovative and incorporating the latest technology. For example, AMU is currently experimenting with podcasts and exploring alternative and creative learning methods. We also work very hard to make students aware of the online resources available to them—research databases, periodicals and more.

One student challenged us to move beyond our current learning platform, commenting: "I'd like to see it integrated into Blackberries, chat, and a much better user interface. Voice interface would be nice, something like Teamspeak."

### SIMILARITIES TO TRADITIONAL CLASSROOMS

While the responses varied significantly regarding the similarities and differences of online and traditional institutions, there were common areas for emphasis. Both environments must focus on:

- Well laid out lesson plans;
- Papers, tests, and feedback;
- Research;
- Workload;

- Qualified faculty;
- Homework and deliverables;
- Reading and writing;
- Level of professionalism and quality of leadership; and
- Classroom management by teachers.

A quality education, regardless of whether it is online or brick-and-mortar, must address these issues.

### WHAT NEXT?

Despite these insights and affirmations from our online students, distance educators must begin to question what is needed to prepare tomorrow's cadre of students for success in the online environment. Technology-savvy but less-experienced learners are entering the classroom. We also must be prepared for baby boomers, who are experienced learners but may be less comfortable interacting in technologydriven environments. We must ensure that that technology enhances, not detracts, from the overall learning experience.



### Adaptive Learning A Dynamic Methodolgy for Effective Online Learning

### Nishikant Sonwalkar

#### **OVERVIEW**

he genesis of adaptive learning systems is from the artificial intelligence (AI) research. In the early 1980s there was significant development of systems to provide intelligent response to user interacting with the computers. The early AI research developed into three overlapping streams, namely, knowledgebased expert systems, neural networks, and genetic algorithms. These technologies were used primarily in adaptive control systems that managed the difficult task of controlling electromechanical actuators to



Nish Sonwalkar, Vice President and Associate Dean Cambridge College and Chairman, iDL Systems, 60 Massachusetts Avenue, Boston, MA 02115.

adapt to the given situation and respond accordingly.

The artificial intelligence systems were based on strategies to learn users' behavior and respond accordingly. The conceptual and philosophical differences of theses approaches led to the learning systems that were either influenced by the connectionists model that created supervised neural nets or unsupervised self-organizing maps or reduction of the knowledge domain into set-of symbolic representations leading to knowledge-based expert rules that can be fired to resolve a decision for the given situation.

Unfortunately, the learning management systems (LMS), learning content management systems (LCMS) or even the course management systems (CMS) completely have been completely void of any tool that allowed intelligent tutoring system to become part of the learning system to help individual learners to learn.

The learning systems developed by the author combine the elements of pedagogical learning framework with the intelligent systems to develop *adaptive learning systems*.

#### **ADAPTIVE LEARNING SYSTEMS**

Adaptive learning systems can be defined as the intelligent systems that are dynamically organized based on the observation of the learning preferences of an individual for the best learning performance. The definition above illustrates following important characteristics of adaptive learning systems:

- 1. The adaptive systems needs to have a *well defined pedagogical framework* to identify and differentiate individual learning preferences
- 2. The systems needs to have a *well* defined quantification of learning performance and learning preference inference model and
- 3. The system needs to have a *dynamic content sequencing engine* to organize learning assets to match the individual learning

### PEDAGOGICAL FRAMEWORK: THE LEARNING CUBE

The three-dimensional *learning cube* provides a logical framework to identify individual learning preferences based on the learning styles that define distinctive learning pathway. Three dimensions of the learning cube represent media, models and interactivity.

The proposed learning cube depicted in Figure 1 is composed of three dimensions-learning media, learning models/ strategies and interactivities. The media elements are the modes of collecting information through text, graphics, audio, video, animations and simulations based on visual, auditory and kinesthetic preferences, the learning models refers to the process preferred by a learner to understand the information and turn it into useful knowledge, such as apprenticeship, incidental, inductive, deductive, and discovery, and the interactivity is used to provide feedback for confirmation, reinforcement and discussions. The learning cube is useful to map the individual learning preferences based on media, learning models and interaction.

For adaptive learning we define the five functional leaning styles/strategies as:



Figure 1. The "Learning Cube" framework.

- 1. Apprenticeship. A "building block" approach for presenting concepts in a step-by-step procedural learning style similar to mentor-student interaction.
- 2. Incidental. Based on "events" in a story or an educational trail that triggers the learning experience. Learners begin with an event that introduces a concept and provokes questions.
- 3. Inductive. Learners are first introduced to numerous examples that point to a central generalized principle.
- 4. Deductive. Learners are introduced to a principle by and learn by applying the principle in several situations and use principles to generate logical extensions.
- 5. Discovery. An inquiry method of learning in which students learn by doing, testing the boundaries of their own knowledge.

These models represent selected learning processes chosen from the numerous learning theories. These models and strategies are organized from simplest linear learning model to complex simulated environments.

### QUANTIFICATION OF LEARNING PERFORMANCE CORRELATION

The learning performance correlation matrix is based on the statistical inference engine that collects information about the user behavior from each individual learning trajectory and creates a probability distribution for the entire set of learning content. These probability distributions are then updated based on the performance of individual user in a given diagnostic assessment.

The diagnostic assessments are as simple as a multiple choice questionnaire on the given concept or a complex exercise to demonstrate the level of mastery of an individual for a given concept.

### DYNAMICS CONTENT SEQUENCING ENGINE

The diagnostic performance correlation leads to the identification of preferred learning model and concept deficiency. Based on the concepts that need remediation and the preferred learning style the content is sequenced dynamically to match the individual learning preference.

A remedial short presentation is dynamically generated following every diagnostic test to provide continuous intelligent feedback. The revision of the concept with the specific feedback leads to enhancement of the performance on each concept. This process of diagnostics and remediation leads to adaptive learning cycles that ensure that every individual learner reaches the necessary competency level.



Figure 2. The four-step adaptive learning system.

### ADAPTIVE LEARNING CYCLE

The adaptive learning system as described earlier consists of a four-step learning process:

- 1. Learning of the concepts based on a given learning style/model
- 2. Diagnostic evaluation of the concept mastery
- 3. Concept deficiencies are identified and the learning preference correlation is generated.
- 4. Content is dynamically re-sequenced as a short remedial revision to ensure every learner master concepts, this cycle is repeated until every individual learner reaches the desired level of competency.

### LEARNING WITH MASS CUSTOMIZATION

The future of e-learning is not in providing static content that just provide information, but lies in the power of customizing the content to match the learning needs of each individual learner. The learning process that is based on strong dynamic presentation and continuous adaptive feed back can overcome the deficiencies prevalent in the current on-line learning. Adaptive learning systems will provide the expected results that are long-awaited promise of educational revolution. It is time to build the next generation of adaptive learning systems.

## Interactivity in Distance Education

### **Marlene Mahle**

he recent proliferation of distance education among higher education institutions, as a valid educational alternative, has been tremendous. Distance education has grown significantly over the past few years, and this has in turn expanded the possibilities of both teaching and learning. It was estimated that by 2004, there were more than 1.5 million students taking Web-based courses in the United States (Everhart, 2000). Distance education is among the fastest-growing markets in the education industry today. It is also a method employed in other noneducational industries from the private sector to government agencies and



Marlene Mahle, Graduate Student, ITDE Program, Nova Southeastern University. Telephone: (347) 617-7778. E-mail: mmahle@nsu.nova.edu Web: www.nova.edu/~mmahle

professional associations. However, the proliferation of distance education has brought with it concerns regarding student achievement and motivation. Of specific concern is the level of interactivity that is offered by Web-based versus traditional face-to-face instruction. This article is a brief review that addresses the following questions about interactivity in distance education:

- 1. Is there a clear definition for interactivity?
- 2. Why is interactivity important in distance learning?
- 3. How does interactivity relate to students' self-directness?
- 4. Is there a relationship between interactivity and students' satisfaction with distance learning?
- 5. Is there a relationship between interactivity and students' motivation and success?
- 6. Is interactivity also important in elearning?
- 7. How can interactivity be incorporated into Web-based courses?

### IS THERE A CLEAR DEFINITION FOR INTERACTIVITY?

Interactivity usually refers to the level of communication and participation as well as feedback between learners and instructors. Interactivity, as described by Gilbert and Moore (1998), requires that there be an exchange between the technology employed and the learner. Wagner (1994, 1997) further expanded the definition of interaction as: "reciprocal events requiring two objects and two actions" (p. 20). Interactivity has been an on-going challenge for instructors that teach via the Web. Instructors need to be cognizant of incorporating a significant amount of interactivity into their courses. There are many ways in which a Web-based course can be interactive. For instance, Moore (1980) identified three specific kinds of interactions: interaction with content, interaction with instructors, and interaction among peers. Hillman, Willis, and Gunawardena (1994) identified a fourth type of interaction which they called learner-interface interaction, and defined as "the interaction that takes place between a student and the technology used to mediate a particular distance education process" (p. 31) Thus, interactivity can be incorporated at different levels within a course.

### WHY IS INTERACTIVITY IMPORTANT IN DISTANCE LEARNING?

Visser and Keller (1990) correctly identified the lack of empirical research focusing on the relationship between interactivity, student success, and motivation. The research that has been conducted has demonstrated a strong relationship among these three factors. Some of the research studies include the work by Roblyer and Ekhaml (2000). They concluded that the degree of interaction was a primary factor in students' perception of the course's quality. Gao and Lehman (2003) examined various levels of interactivity in Web-based courses and found that interactivity had a positive effect in student motivation and success. The many advantages offered by interactive courses are mentioned throughout the literature. Simonson (2001) listed as one of many advantages of interactivity, that lesssocial students may find the distance education environment a positive experience that would allow them to interact more than they would in a face-to-face course. Fischer and Scharff (1998) concluded that interactivity is essential in all technologymediated environments. Burge (1994) conducted a study in which she employed two Web-based graduate courses. Students in these courses expressed the need for more interaction not only with instructors but with other class participants. Communication is an interactive component that needs to be given serious consideration in distance learning. Muirhead (2001) pointed out that adequate feedback from instructors is necessary to reinforce students' concerns as to whether they have acquired accurate knowledge from Web-based courses, and Burge (1994) stated that distance educators must provide support to their students by "giving fast and relevant assistance by sending timely and individualized messages and providing appropriate feedback to students" (p. 30). Other studies on interactivity have found that students have a need to connect not only with their instructors but also with other course participants (Muirhead, 1999). Distance education faces the challenge of facilitating this interaction among instructors and students. Simonson (2001) stated the importance of interactivity as: "There is something visceral about communication with someone you can see that is missing when that person or group of people is not in sight" (p. 5).

### How DOES INTERACTIVITY RELATE TO STUDENTS' SELF-DIRECTNESS?

Self-directness is an essential quality to be developed by students in Web-based courses. Milheim (1993) stated that a primary goal of adult education is to promote self-directness. The level of interactivity may play a lesser role with students who are more independent and self-directed; however, this does not minimize its importance for these students.

### IS THERE A RELATIONSHIP BETWEEN INTERACTIVITY AND STUDENTS' SATISFACTION WITH DISTANCE LEARNING?

It is important to also consider the overall satisfaction of students with their distance learning experience. Satisfaction will ultimately lead to motivation, learning, and successful outcomes. Irons, Jung, and Keel (2002) focused their research on access and interactivity, and offered a conceptual model to assess perceived satisfaction with distance learning classes. Their research found that students liked the interactivity offered by virtual classes that included a Web component as long as they could have easy access to the Web. In a study conducted by Davie (1988), students in two graduate level distance courses at the University of Toronto reported a high level of satisfaction with the courses due primarily to the level of interactivity. Thurmond's (2003) research focused on specific perceptions of interactions that could potentially predict student satisfaction as well as students' willingness to enroll in future Webbased courses. The results showed that the most significant predictor was students' perceptions of interaction. Cornell (1999) identified various problems with student motivation and satisfaction in Web-based courses, among which was the level of interaction. Therefore, as Kennedy (2004) stated, "interactivity can increase intrinsic motivation and produce better learning outcomes" (p. 43).

### IS THERE A RELATIONSHIP BETWEEN INTERACTIVITY AND STUDENTS' MOTIVATION AND SUCCESS?

A concern as a result of the proliferation of distance education concerns its effectiveness, including the level of student learning as well as students' motivational factors towards the learning experience. Many theories and empirical research have shown a direct relationship between motivation and learning, and it has been suggested that interactivity is directly related to learners' motivation, which subsequently leads to positive outcomes. The literature indicates that motivation can positively affect performance. Zirkin and Sumler (1995) examined the effects of interactivity and learning. Their research found a positive relationship between the level of interaction and student learning: "The weight of evidence from the research reviewed was that increased student involvement by immediate interaction resulted in increased learning as reflected by test performance, grades, and student satisfaction" (p. 101). Helmke (1987) found cognitive motivation to be responsible for a variance of 12% on academic learning. Other studies have confirmed that motivation is an important factor in the dropout rates of distance learners (Berge, 2001; Perraton, 2000). Gao and Lehman's (2003) study found a positive effect between various levels of interactivity on student achievement in college Web-based courses. Their findings supported their hypothesis that students who participated in courses that employed higher levels of interactive learning materials outperformed those who participated in courses that employed less interactive and more static components.

### IS INTERACTIVITY ALSO IMPORTANT IN E-LEARNING?

Distance learning in the private and government sectors, often referred to as e-learning, also requires a level of interactivity to be effective. Kaupula and Nycz (2001) described some basic steps to keep e-learning engaging and provide various levels of interaction which include software simulation and scenario based questions. Angehrn, Nabeth and Roda (2001) stated that many e-learning programs are made to resemble traditional face-to-face instruction. They mention some major problems with e-learning programs, such as poor support for individuals and lack of interactivity, and introduce a system to help designers of e-learning programs incorporate the missing components. Thomas (2001) introduced a concept that examines the issues involved in integrating interactivity into Web-based learning and maximizing the potential of employing the Internet called e-Sim: an online shareable, customisable, re-usable, interactive simulation. Bruk (2005) stated that research conducted by his organization has shown that interactive e-learning training programs have a significantly higher level of retention. Thus, the literature also supports the importance of interactivity in e-learning programs employed in the private sector.

### HOW CAN INTERACTIVITY BE INCORPORATED INTO WEB-BASED COURSES?

There are many suggestions offered in industry publications. Sherry and Yamashita (2004) described 10 strategies that they developed for their online courses. These strategies are divided into interactive categories that include: learner to instructor, instructor to learner, learner to learner, learner to content, and learner to technology. Artino (2004) provided a model for cooperative learning that offers various suggestions for incorporating interactivity into a Web-based course. Gao and Lehman (2003) went further to describe two levels of interactive activities that can increase students' outcomes and motivation. These and other studies provide general and specific examples and techniques that can increase interactivity in a Web-based medium of instruction.

### CONCLUSION

Interactivity is a primary component of any distance education and e-learning program. This includes educational programs offered by higher educational institutions, as well as training and other programs in the government and private sectors. It is not possible to mention all the factors involved in interactivity and distance education. This artlicle's intent is only to provide an awareness of the great importance of interactivity in distance education and distance learning. As technology expands, it is necessary for instructional technologists, instructional designers, and educators to keep up with advances in the field and to maintain a high level of interactivity to provide a successful distance learning experience.

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## **Distance Education** Faculty Concerns and Sound Solutions

### Pat Moreland and Hanadi Saleh

While higher education has largely been successful in America with relatively little change and innovation, the new millennium has brought with it a renewed sense of urgency regarding the need for higher education to remake itself. Accrediting bodies, the US Department of Education, and corporate America are all reflecting the public's demands that higher education become more innovative and accountable. The greatest challenges to innovation are to be found inside our own institutions. (Palmer-Noone, 2002)

#### INTRODUCTION

ew technologies are shaping and reshaping a unique and different educational environment in today's academic institutions for distance education. The decision to embrace or reject these new and emerging technologies will affect market opportunities for all types of institutions. "Distance education is now often defined as institutionbased, formal education where the learning group is separated geographically, and where interactive telecommunications systems are used to connect learners, resources and instructors" (Simonson, Smaldino, Albright, & Zvacek, 2003, p. 7). In higher education, distance education is



Pat Moreland, Program Chair, Marketing, Central Piedmont Community College, P.O. Box 35009, Charlotte, NC 28235. Telephone: (704) 330-6529. E-mail: pat.west@cpcc.edu



Hanadi Saleh, Online Consultant, Region V Training Council for Adult Education and Adjunct Faculty, Instructional Technology and Research, Florida Atlantic University, 777 Glades Road, Boca Raton, FL 33431. Telephone: (561) 297-3600. E-mail: hsaleh@fau.edu

moving from optional to requisite status for institutions to remain competitive and for the students to be able to complete their courses and degree programs.

As demand increases for this type of educational alternative a variety of challenges for faculty, administration and staff have emerged. Faculty, in particular, have tended to feel the impact and at many institutions they are voicing their concerns. The more effectively an institution understands the factors that are motivating this resistance, the better able they will be to implement strategies to overcome this resistance, to change the way faculty view their role in distance education. An underlying commitment to providing the students with the best possible learning environment is the goal of any distance education program.

The best way to move ahead is to recognize and address the legitimate concerns that faculty are raising. This article presents six potential objections and ways in which administrators and decision makers may help alleviate their concerns before assuming that distance education will transition smoothly from the traditional classroom.

### CONCERN 1: IS DISTANCE EDUCATION LIKELY TO DECREASE THE SIZE OF THE FACULTY AND THREATEN JOB SECURITY?

A primary fear of the faculty is that distance education will decrease an institutions need for them. The faculty are one of the primary stakeholders in distance education. According to Rogers' (1995), "diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system." Rogers (1995) defines a social system as "a set of interrelated units that are engaged in joint problem solving to accomplish a goal." In order for a distance education program to be fully incorporated and effective, the institution must identify the early adopters. The impetus for innovation often comes from individual users of the technology. They grow in number as they communicate to each other the benefits of usage and a body of support begins to emerge. It can, in some instances, be a grass roots effort. When this happens, the chances of selling an innovation to the majority goes up. Once early adopters are identified, they must be included in the planning process and at every stage thereafter. Information must flow freely and willingly throughout the institution. As part of this process, the benefits to faculty, students, and the institution of distance education must be communicated in both verbal and written manner.

The research literature documents many advantages and disadvantages of distance education. Some of the points offered by Berge (1998) are that:

- Distance education provides an exciting infrastructure that can be used for course delivery.
- The technology being used for distance education is cross-platform. Today's distance education technology is accessible to nearly any user with a computer and an Internet connection.
- Access to the Internet and the university servers is widely available with standard interfaces.
- Online education can be flexible, accessible, and convenient for students.
- There can often be institutional cost savings and time savings over traditional place-based education.
- There are often advantages to the instructor such as ease in updating and revising courses.

Does distance education lead to fewer faculty members or threats to job security? Berge (1998) suggests that existing instructors should be expected to teach the converted courses. He also encourages creation of a position to ease others through the distance education changes as a combination of project manager, salesperson, instructor, and developer. The only people who need to worry about job security are people who remain totally opposed to using technology either in their classrooms or in distance education formats.

### CONCERN 2: QUALITY OF DISTANCE EDUCATION

The issue of quality distance education classes is one of critical importance to faculty. Fortunately, many research studies have investigated the quality of distance education compared to traditional face-toface education.

According to 248 studies that were compiled by Russell (2000), there is no significant difference between distance learning and traditional classroom learning. In other words, distance learning can be considered as effective as face-to-face learning, and our results support this conclusion. (Dean, Stah, Swlwester, & Pear, 2001, p. 252)

Simonson et al. (2003) summarized the results of the research done about distance education.

- Distance education is just as effective as traditional education in regard to learner outcomes.
- Distance education learners generally have a more favorable attitude toward distance education than do traditional learners, and distance learners feel they learn as well as if they were in a regular classroom.

In another study conducted at East Carolina University, Tucker (2001) concluded that, "distance education is not worse than traditional education. It can be an acceptable alternative because it is just as good as traditional education.".

To ensure quality, an institution can do one or more of the following: (1) hire and train faculty so that they understand the role of technology in the teaching/learning environment and are able to incorporate it appropriately into their own classrooms, (2) demonstrate an institutional commitment to distance education, and (3) putting into place appropriate assessment measures for goals and outcomes of distance programs.

In Assuring Quality in Distance Education, a report prepared for the Council for Higher Education Accreditation by the Institute for Higher Education Policy (1998) the authors offer the following specific recommendations for assuring quality in distance education:

- Establish reliable and valid performance measurements for distance learning;
- Require evidence of effective instructional techniques;
- Promote systematic efforts for selecting and training faculty;
- Require providers to substantiate evidence of contact between faculty and students;
- Assure the availability of learning resources;
- Promote ongoing monitoring and enhancement of the technology infrastructure of institutions;
- Focus attention on the development of courseware and the availability of information; and
- Testing should be only done in a proctored situation. This may take place at a campus location or a location approved by the faculty.

To help alleviate faculty concerns about quality, an institution should have the faculty develop procedures for an ongoing review and updating of their courses to ensure consistency with curriculum standards. Have faculty periodically review their classes for currency of content and to ensure that their distance education classes meet the same objectives and include similar content as their tradition face-to-face courses.

### CONCERN 3: PROVIDING INTERACTIVITY IN DISTANCE EDUCATION

An additional concern of many faculty members is how to ensure interactivity with students. One of the beneficial parts of face-to-face contact is when there is evidence of interaction between teacher and student, and among the students. By making educational experiences more interactive and meaningful in an online environment, a learning community is created. "Learning communities fosters a greater sense of community among learners, promotes greater retention and achievement for students, and revitalizes the teaching experience for faculty members" (Rasmussen & Skinner, 2001). Faculty must alter both the course design and their teaching strategies to take advantage of distance learning technologies and assure maximum interaction.

Three types of interactions take place in a distance learning class. There is student to instructor interaction, intended to reinforce student learning of course content and to provide feedback to the student. Student to student interaction takes place between two or more students. This level of interaction builds a sense of community among students. Research has demonstrated that this sense of community leads to student satisfaction and retention. The third type of interaction is between the student and the course content. This type of interaction occurs when the student participates in course activities and masters the course content. All of these forms of interaction engage the student in the learning process, which in turn leads to higher levels of learning.

According to Holmberg (1995) one of the key concerns in facilitating distance education is the development of learning communities. Smaldino, Simonson, Albright, and Zvacek (2000) observe: "Personal relations, study pleasure, and empabetween students thy and those supporting them are central to learning in distance education. Feelings of empathy and belonging promote students' motivation to learn and influence the learning favorably." For distance education to succeed, the benefits of the face-to-face learning experience must be synthesized by the creation of a learning community in the online environment.

### CONCERN 4: IN DISTANCE EDUCATION, WHO IS COMPLETING THE ASSIGNMENTS?

An additional issue for faculty is who actually completes the work in a distance format. Some guidelines have been offered to help the distance educator:

- Use different assignments with each course or section, to avoid "sharing" of prior work completed.
- Use plagiarism detection software.
- Design the course so that students have frequent discussions and respond to their classmates' postings. This will help to eliminate the possibility for someone else to pose as another student.
- Require students to give clear explanations as they talk about their project assignments.

If faculty members do not know their students, there is always the chance that someone will be sitting in a student's place, even in the traditional classroom. The key is to know the students, to ask them to interact frequently, and to build from one concept or project to another. It may be easy for someone to "sub" once or twice, but not many people will do the entire course and all its assignments for someone else. To address this issue, the distance education teacher could do the following:

- Ask questions or assign projects that build on each other; incorporate real-life experiences and examples from work settings.
- Consider telephone contact; use voicebased communication software such as Elluminate. While using voice or video options, ask questions about papers or projects during discussion/presentations that have been submitted previously.
- During chats, ask about the process(es) involved in completing assignments. This technique is effective in face-toface classes as well, especially large ones--if the respondent did not actually do the work, it will be obvious in the reaction to this question.
- Assign group projects and at the end ask for a detailed peer evaluation related to aspects such as communication, cooperative learning, and contribution to the project.

In both situations, the key is for the teachers to know the students—whether in the traditional classroom setting or in distance education classes.

### CONCERN 5: ASSESSMENT AND TEST-TAKING SECURITY

The unique characteristics of distance education pose challenges to the process of student assessment. Many of the conventional approaches used in face-to-face classes are of limited use in distance education because of security issues. Effective faculty members use a variety of techniques to determine how well and how much their students are learning. Thus, the use of alternative assessment approaches has emerged in distance education. Alternative assessments may include:

- Portfolio assessment or performance assessments;
- Group projects, discussion boards, and other types of learning activities;

- Vary the type of assessment tools utilized;
- There are several ways that the testing can be done. One is to mail each student a separate exam. In addition, design tests to incorporate readings, discussions, videos, synchronous chats, and group projects. Some colleges allow students living in that state to come to the campus for exams. In the case of distance education, arrangement can be made for the student to be tested at one of the National College Centers or Educational testing centers that administer the GRE, SAT, or TOFEL to students all around the globe. Students bring two pieces of information as evidence for identification; and
- Other formats utilized are to randomize questions, provide time limits for completion of the assessment and offer multiple versions of an exam.

Online courses need to be designed to discourage dishonesty. The course must be designed to clearly define for students what the behavioral expectations are, what the time commitment is that the faculty expect. Clearly spell out for the student what academically inappropriate behavior is and the institutional policy regarding this behavior. Reinforce for the student the relevance of the course material, what is the value to them of learning the material.

### CONCERN 6: CREDITS, CLOCK HOURS, AND STUDENT CONTACT REQUIREMENTS

Another common faculty issue is how much time a student spends in the distance class as compared to an equivalent face-to-face class. The amount of time a student spends on course work is primarily dependent upon course design. Distance education classes are not imitations of face-to-face classes but should draw upon the advantages of the technology they utilize to create an intuitive, inviting learning environment. The design of the course should demand that online students spend time in the discussion area. Many online participants in distance education classes report they spend more hours reading, researching, and writing than they would in a face-to-face class. More quality time is spent learning. It is a time to direct your own learning at your own pace, at a convenient time when you feel relaxed and in the solace of your home.

Another important distinction is that traditional classes involve attendance, participation, and use of time, but how much is lecture? How much is interactive? How much is "administrative: with little connection to the course itself? In distance education, lectures are presented and reviewed multiple times by the students. The course also is designed for interaction for every student to participate, not worrying about the "end of class." You cannot hide; online interaction among students uncovers nonparticipants, whereas, in face-to-face courses, some students are "observers." In addition, the total time commitment by students is likely to be much higher in distance education classes than in traditional formats. The quality of time spent in distance learning is likely to be comparable or greater than time spent in campus classrooms.

### CONCLUSION

By building co-ownership with the distance education program, faculty will come to understand that good instructional practices are similar whether done in a traditional format or a distance format. This approach to innovative technology will involve the faculty in implementing distance education and invite showcasing of identified best practices among colleagues. Not only will the fears of the faculty be minimized, but acceptance will become more widespread. Eventually, critical mass will be reached and faculty will accept distance education classes as an ongoing and important component of their teaching repertoire.

Regardless of whether an institution is at the height of innovation or a stubborn laggard, technology integration cannot be performed unconsciously, but must be planned, designed, constructed, tested, and evaluated with full awareness of goals and means. Faculty need to believe that they are respected, knowledgeable professionals with expertise and values they express in their professional roles (Thompson, 2003). The ability to manage the transition and embrace this approach determines the success of technology integration for both the individual and the institution.

By incorporating distance education as a significant component in course offerings, institutions will be able to serve the students who live too far away to commute to a college campus, the students who have only been able to dream of college educations in the past. Universities will not have to build more classrooms to accommodate new students. The virtual campus will offer new options for students who have completed part of their degree programs but were interrupted, and will offer flexibility and accessibility to the older students and their various life situations. Distance education may well facilitate a higher percentage of students being able to graduate within a reasonable period of time. Satisfied graduates are more likely to become successful in their chosen career fields and remain connected as alumni and potential donors.

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## Questions Students Ask About Distance Education

### Noel O. Lawson

#### INTRODUCTION

s society has entered the age of globalization, the way individuals communicate and conduct business has changed. As Renard (2005) stated, "No generation has ever had to wait so little time to get so much information" (p. 44). Technology has made it possible for this generation of students to access information on any subject without having to go to the library or looking at books. Students can use the Internet to access primary, secondary, and tertiary resources that are unavailable in public and private



Noel O. Lawson, doctoral student at Nova Southeastern University and Music and Special Education Teacher at Bronx Academy of Health Careers, Bronx, NY 10475. Telephone: (718) 320-0685. E-mail: nlaws@chesma.com

libraries as well as in bookstores (Nellen, 2001). As a result, technology has created opportunities for people who once lacked flexibility to pursue advanced studies without disrupting their family and work schedules.

Colleges are thus transforming how they deliver instruction. Lambert (2006) noted that the popularity of distant education in the United States has gradually forced colleges to become global providers. Competition among colleges for students is no longer a regional turf battle; instead, "institutions that can deliver the most convenient and relevant educational services will dominate" (p. 1). However, amidst easy access, students must be careful in selecting the college or university at which they want to pursue their online degree program because serious problems can accompany distance education. Red flags student should look for include: accreditation; track record; admission policy; class size; credit worthiness; the institution's response to specific questions; qualifications of faculty to teach a distance course; level of interaction between instructor and students; level of student services provided; what current students and graduates say about the program; content, materials, and presentation; quality of the educational experience; and expense. Apart from these items, student learners should conduct a self-evaluation to ensure that they can handle the challenges, in terms of motivation and self-discipline that distance education requires.

### ACCREDITATION

Learners need to become familiar with issues that are relevant to distance education. One such issue is accreditation. What is it and what does it look like? Accreditation is the verification of the quality of an educational institution's "entire program by outside evaluators" (Simonson, Smaldino, Albright, & Zvacek, 2003, p. 16) and a critical issue for distance education providers. Different forms of accreditation include national, state, and regional. Regional accreditations, such as those of the North Central Association and Southern Association of Colleges and Schools are most widely accepted. Further information on checking the legitimacy of accreditors can be found at the United States Department of Education and the Council for Higher Education Accreditation. Students can also check with the Distance Education Training Council (DETC) to verify a school's accreditation.

Another important issue facing distance education students is transfer credits. As Lambert (2006) noted, "The acceptance of the academic credits by other academic institutions earned via distance study is a problem" (p. 2). Lambert warned that if the provider is not nationally or regionally accredited by a recognized accrediting agency such as DETC or regional accrediting agency, the likelihood of the learner later transferring credits is nil.

As informed consumers, students can verify if a university or college is properly licensed and approved in the state where it is located (Thomas, 2006; Simonson et al., 2003).

Foreign students who are enrolled in distance education in the United States must take particular care with this as there are dozens of unrecognized accreditors operating in the United States who give worthless accreditation to their client colleges. Sadly, most of the students who enroll in these distance education programs reside outside the United States and are ill-informed about U.S. accreditation procedures (Lambert, 2006). Additionally, distance education students should ask for the name, address, including e-mail and Web site addresses of the college's accrediting agency and state licensing agency, and keep this information for future use should any problem arise, since U.S. federal law mandates that recognized accrediting agencies give such information to prospective students (Lambert, 2006).

### DOES THE DISTANCE EDUCATION INSTITUTION HAVE A TRACK RECORD?

According to Thomas (2006) distance education has evolved rapidly; and this makes it difficult to judge the quality of programs based solely on longevity since many good programs have just started. Consequently, some relevant questions students can ask about the course they want to take include:

- Has the course been taught before?
- Who is teaching the course?
- How reputable is the institution?
- Will the credits be transferable to other colleges and universities?
- What colleges and universities accept credits from your distance education program?

Another pertinent query learners need to make concerns the refund policy. Will part of the money be refunded if the student quits the course? If the answer is negative, it is your signal to enroll with another provider (Lambert, 2006). Simonson et al. (2003) remarked, "Any reputable institution offering distance education will have a system for registration, instruction, assessment, grading, and reporting" (p. 175). Hence, students must check this information before they enroll in or begin to take a formal distance education course. Students' queries should not be limited to course material or credits but should also cover the obtaining and shipping of textbooks as well as the precise hardware and software necessary for their personal computer. Institutions with experience operating worldwide will answer these questions.

### **ADMISSION POLICY**

Consumers need to be alert and avoid giving permission to anyone to automatically deduct fees from a personal credit card. One recommendation is that consumers pay fees as they are due. According to Thomas (2006), consumers need to look out for programs that admit students with few restrictions, give credits for all the things they've done without careful scrutiny and then charge an exorbitant tuition. It is important to note also that some institutions award credits for past experience but only after careful and close evaluation. Lambert (2006) made the observation that learners can ask permission to visit a class for a short period to see if it is to their liking.

In addition, students must investigate the total costs and charges they'll pay. They should ask about tuition payment policy since payment options vary at different institutions. Frequently, some institutions have hidden fees that are not disclosed by their catalog, such as transcript fees, activity fees, or virtual library fees. As a consumer you need to know the total cost up front.

### **CLASS SIZE**

Freed from the restrictions of a physical classroom, some distance education providers place many students in one class. This is problematic because the more students per instructor, the less attention per student. Thomas (2006) stated that to have more than 25 students per instructor presents a problem for the professor and can overload the system. Instructors will have a difficult time handling the workload in this class size since contact between instructor and students in distance educa-

tion is very demanding, time consuming, and critical. Overloading also affects the quality of the instruction. Queries concerning promptness, efficiency, and competent instructional service must be made before commencing an online program.

## WHERE CAN I FIND A LIST OF ONLINE DEGREE PROGRAMS?

The World Lecture Hall (http://www .utexas.edu/world/lecture/index.html), а clearinghouse maintained at the University of Texas, is a useful resource for potential distance learners. Other useful resources include Thorson's Guide to Campus Free College Degrees and Peterson's Guide to Distance Learning Programs. Swiss (as cited in Thomas, 2006) recommended that students' interests drive their search and that they should scrutinize the course content before signing up. If the content information is of poor quality, move on. In an attempt to capitalize on the growing population of distant learners, "some institutions will focus on high demand fields without much regard for whether or not they possess the expertise" (p. 3). A recommendation from Kohl (as cited in Thomas, 2006) is that students become wise and collect information from recognized accrediting agencies and professional societies about the history and performance of distance education providers as a means of assessing quality.

### How is Instruction Presented and How are Assignments Submitted?

Most institutions present content in many ways including video presentations, chats, group activity, reading followed by threaded discussions, assignments, and group projects after each unit. These units are created using instructional design and most courses are divided into 10-15 modules. Modules contain the assignments such as quizzes, reports, presentations, and term papers. Faculty must provide distance learners with handouts and coursework before the beginning of the class session. Learners should be self-motivated and active in completing assignments in a timely manner.

More recently, audio and videos have been integrated into online courses. Professors save video and audio clips to DVDs and mail them to students to be used as part of the instruction. The students then retrieve sections that are applicable to the instruction. Additionally, course content is dispersed via electronic mail or placed on a course Web site. Students also work collaboratively in groups and interact regularly with other students in the course (Simonson et al., 2003).

Distance learners utilize several methods to submit assignments. Most assignments are submitted as attachments to email. At other times, they are sent on a DVD or a hard copy is mailed to the instructor. Projects are posted to the course Web page and then retrieved by the instructor. Electronic submission is preferred since instructors can provide quick feedback to students about their progress. Learners should never forget to ask questions about the electronic libraries and databases that are made available to them.

### **DO YOU HAVE WHAT IT TAKES TO BE SUCCESSFUL?**

Students who learn at a distance are a special kind of student. A common characteristic of these learners is a commitment to learning. These are individuals who are self-directed, who are intrinsically motivated, who are abstract learners, who have internal locus of control, and who frequently have practical experience in their field (Simonson et al., 2003). Discipline is another shared trait. Some distance education programs rigorously challenge learners with copious reading and writing assignments including threaded discussions and term papers, so the notion that distant learning is easy is definitely not true. Assuredly, individuals who procrastinate will experience difficulty. Thus, distance learners must be prepared to commit substantial numbers of hours each week to be successful.

Lambert (2006) developed a set of questions to help prospective students understand if distance education is for them. The questions are as follows: Do you enjoy talking with friends about current topics in a debate style? Do you perform jobs immediately or do you have to be reminded more than once by others? Do you prefer receiving the news reading the paper rather than from the television? When engaged in a project, do you research questions on your own rather than telephoning an expert for answers? Do you stay late at work when you're engrossed in a task, rather than "punch the clock" and leave at "quitting time"? Are you compelled to read a book to the end as opposed to stopping reading when it gets boring? Do you tend not to finish a project until you're satisfied it is the best work you can do before starting another project? Do you prefer to walk alone in the park or walk with a friend or two? When doing the crossword puzzle, do you research for a clue or consult a friend for the solution? Lambert suggested that each yes has a value of two points, so a score of 16-18 is an indication that the learner is highly likely to succeed, 10-14 points suggests that the learners is likely to succeed, at 4-8 points uncertainty sets in, and fewer than 4 points is a red flag that distance learning is not for the individual.

### WHAT TECHNOLOGIES ARE REQUIRED?

Since not all students have the latest technological equipment, distance education providers make every effort to deliver their program in a straightforward way. Students, however, should be able to manipulate the Internet comfortably and be

relaxed if glitches occur. It is paramount for instructors of online courses to allow distance learners to practice using the technological resources applicable to the course, such as the "dropbox" for turning in assignments, asynchronous discussion platforms, or Web-based quizzes. An important issue providers should also consider is the fairness of the assessment activity. Simonson et al, (2003) noted that instructors should avoid penalizing distance learners by requiring them to use resources not available to them or by expecting them to adhere to different protocols than students in a face-to-face setting.

### WHAT DO DISTANCE LEARNERS WANT?

Students need quality service and access. DiPaolo (as cited in Lambert, 2006) noted that the attributes that attract distance learners are: real-time and delayed options; well-designed, engaging, and intellectually challenging courses; seamless, available, and reliable delivery technology; emphasis on student-centered rather than teacher-centered on approaches; high levels of interaction, including problem-based simulations; participation in a learning community through interaction with the instructors and classmates; interactive, highly engaging, and well-crafted courses; and student support and academic advising services that are convenient, accessible, and easy to understand.

### **CHEATING AND TESTING**

Individuals who want to cheat will cheat, be it in traditional or distance education. Over the years, institutions providing quality distance instruction have eliminated objective forms of testing and have developed more comprehensive methods of student assessment Alternative assessments, such as portfolios, projects, and reports, may provide a better indication of what students have learned. Simonson et al. (2003) suggested a number of ways to overcome the limitations of assessing students at a distance, including delivering a test online in a timed or untimed environment, or having on-site verifiers such as school administrators, librarians, workshop supervisors certify that students have taken the test and have complied with the test protocol.

### CONCLUSION

Lambert (2006) emphasized that as new technology becomes available, online providers will utilize the new technology to deliver their courses to distance learners. Students, however, will have to be vigilant to find out important information about the institution in which they want to enroll. As informed consumers, students can begin to use technology to gather information about a provider's accreditation status. They should always triangulate their findings to verify their accuracy.

Students must be cognizant that distance learning demands that they work independently without prompting, since providers of distance education tend not to push and motivate individuals to learn. Staying on task is critical, since learners can lose awareness when they're not interacting with individuals in the course. If students are dissatisfied with their progress, they should contact their instructor and, if the problem remains unresolved, students should contact their instructor's supervisor (Simonson et al., 2003). Students must remain focused and become skilful in managing time to be successful in distance learning.

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"Students must remain focused and become skillful in managing time to be successful in distance learning."

# Research on Distance Education

#### **Ryan Watkins**

These innovations are, nonetheless, accompanied by a growing requirement for valid research findings to guide their



**Ryan** Watkins, Associate Professor, George Washington University. Web: www.ryanrwatkins.com

selection, design, development, and implementation in distance education programs. Empirical research in the field of distance education seems to, however, continually lag behind advances in technology. As soon as reliable evidence is available supporting the application of either electronic technologies (e.g., Blackboard, podcasts, wikis, virtual learning environments) or conceptual technologies (e.g., theories, procedures, frameworks, models), new technologies change the landscape and send researchers back to the basics. As a result of this dynamic horizon, research is often outdated before results of scientific studies can be calculated, let alone published.

Continually chasing after the newest technologies has, for some time, left research in distance education on a merrygo-round of sorts, with researchers always reaching for a golden ring, but continually going around in circles. This has not only slowed the progress of research in distance education, but also put the discipline in a position of always following technological advances rather than providing research findings that can guide the development of new technologies. Blackboard, WebCT, and other learning management systems are valuable examples of how research in distance education has missed significant
opportunities. Instead of providing research to lead the development of these systems, most research in distance education is limited to application studies when these products have already been put into service (and then they will often be updated to a new version before any research is concluded).

This cycle must stop. Distance education researchers must find a way to get off the merry-go-round and start leading the field of distance education with grounded research. Research that is focused on development and assessment of foundational theories, principles, and models has the opportunity to guide advances in distance education rather than merely testing new products.

The scope of distance education research is broad (and continually expanding), drawing on fields including psychology, education, information technology, communications, and business, as well as a diverse host of specific curriculum areas. As a consequence, research questions related to distance education are often a corollary to primary research interest in sister-disciplines or focused on disciplinespecific impacts alone. For example, a student in economics who is conducting research for a dissertation may include online courses as a variable in his or her study, but the focus remains on the research questions of economics. Likewise, a science educator may conduct research comparing specific online and on-campus science courses, leaving few generalizations available to researchers in other disciplines.

While these challenges are neither new to distance education nor unique to this discipline, they do present significant difficulties to a field of study that has recently seen tremendous growth in its applications in both education and training. The "demand" for research findings today greatly outpaces our ability to produce quality evidence through empirical research. This isn't to say that there is not an overabundance of articles being published on distance education; there is. But what is missing from the discipline is a bedrock of foundational research that develops and tests grounded theories, principles, and models.

Without this foundation, research is without a unifying direction and is susceptible to the trends created by new technologies. All you have to do is visit the No Significant Difference Phenomenon Website to realize that a research discipline without a theoretical foundation and comprehensive models will continue to ask similar questions of new technologies without ever making progress on the fundamental questions.

To guide the future of distance education and meet these challenges, the foundations, scope, and rigor of distance education research should be examined by researchers on a regular basis, and new researchers must look beyond product testing. Based in part on the work of Driscoll (1995) and Briggs (1982), in 2003 a colleague and I offered a matrix for conceptualizing pragmatic research on distance education. The matrix is based on the both the research paradigm of the researcher and the sub-systems of distance education development (see Table 1). Each cell of the matrix then provides an example of the type of research that may be a candidate for the particular research paradigm when applied to the specific component of the distance education program.

Though the matrix does not provide a conclusive array of all possible research on distance education, it can provide initial guidance for researchers (Watkins & Schlosser, 2003). The matrix offers a map (or frame) for viewing the many types of viable and valuable research questions that can be asked within distance education, which can be especially helpful to novice researchers. Nevertheless, research must be directly linked to a theoretical foundation that can provide a basis for both research hypotheses and findings. It is,

		A Matrix	for Conceptua	lizing Researc	h on Distance H	ducation		
	Needs Assessment	Analysis	Solutions and Alternatives	Instructional Design	Instructional Development	Media and Delivery	Evaluation and Continuous Improvement	Diffusion and Adoption
Experiment and Quasi- Experiment	Effect of alterna- tive planning tactics in align- ing goals and objectives within a strategic plan- ning and needs assessment pro- cess	Comparison of alternative task analysis meth- ods for identi- fied performance dis- crepancies	Effect of changes in specified vari- able of a reward/ incentive pro- gram in improv- ing performance	Which of speci- fied variables in materials increase student motivation/mas- tery/satisfaction.	Comparison of two feedback systems for improving learner perfor- mance	Effect of alterna- tive timing of feedback on learner perfor- mance	What factors influence a learners level one (or two, three, four, or five) evaluation of an online course	Effects of specific variables in adop- tion of distance education in a professional school
Meta-Analysis	Systematic review of needs assessment research on simi- lar variables in terms of perfor- mance accom- plishment	Systematic review of task analysis research on similar vari- ables in terms of performance accomplishment	Systematic review of perfor- mance system design research on similar vari- ables in terms of performance accomplishment	Systematic review of instructional strategy research on similar vari- ables in terms of performance accomplishment	Systematic review of visual literacy research on similar vari- ables in terms of performance accomplishment	Systematic review of instructional video research on similar vari- ables in terms of performance accomplishment	Systematic review of goal- free evaluation research on simi- lar variables in terms of perfor- mance accom- plishment	Systematic review of diffu- sion research on similar variables in terms of per- formance accom- plishment
Case Study/ Ethnography	Case study of alterative tactics in conducting needs assess- ments	Case study of teams or organi- zations conduct- ing needs analysis	Case study of learners using EPSS systems	Case study of projects convert- ing courses for online delivery	Case study of development projects of CD- Rom media	Case study of an institution utiliz- ing a new educa- tional technology	Case study of programs' improvement processes for training units	Case study of a new technology being integrated into schools
Technology Development and Evaluation using a Novel Technique	Development and evaluation of a tool for con- ducting aligning strategic plan- ning and needs assessment using a novel technique	Development and evaluation of a tool for con- ducting a con- text analysis using a novel technique	Development and evaluation of job aid sys- tems using a novel technique	Development and evaluation of tools for increasing cre- ativity problem solving tactics in design using a novel technique	Development and evaluation of tools for developing online activities using a novel technique	Development and evaluation of a tool for inte- grating mixed media using a novel technique	Development and evaluation of a tool for syn- thesizing evalua- tion data using a novel technique	Development and evaluation of tool for generat- ing adoption of a new technology using a novel technique
							(Table c	continues on next page)

TABLE 1 Conceptualizing Research on Distance Ed

				TABLE 1 Continued				
	Needs Assessment	Analysis	Solutions and Alternatives	Instructional Design	Instructional Development	Media and Delivery	Evaluation and Continuous Improvement	Diffusion and Adoption
Cost-Effective- ness and Costs- Consequences Analysis	Cost-effective- ness/efficiency of conducting a societal-focused needs assess- ment	Cost-effective- ness/efficiency of conducting a performance analysis	Cost-effective- ness/ efficiency of instructional and/or course delivery alterna- tives	Cost-effective- ness/efficiency of conducting formative evalu- ations; summa- tive evaluations; goal-free evalua- tions.	Cost-effective- ness of the appli- cation of computer design tools	Cost-effective- ness/efficiency of compressed video delivery	Cost-effective- ness/efficiency of collecting use- ful evaluation data online	Cost-effective- ness/ of slow adoption models
Model Develop- ment and Evalu- ation	A model for pri- oritizing needs (gaps in results) in a unique con- text	A model for con- ducting context analysis in a unique context	A model for selecting effec- tive and efficient non-training solutions	A model for selecting appro- priate/effective learner to learner interac- tions at a dis- tance	A model for the rapid prototype development of online instruc- tion	A model for effectively using a new media for the delivery of instruction	A model for assessing learner performance on the job after instruction	A model for spreading the use of a technology in a unique popula- tion
Novel Tech- nique Develop- ment and Evaluation	Method for using online technologies in the collection of needs assess- ment data	Method for con- ducting a task or performance analysis at a dis- tance	Method for the application and impact of alter- native perfor- mance technologies	Method for selecting the appropriate media for instructional objectives	Method for using story- boards to develop instruc- tion	Method for motivating learners in dis- tance education	Method for improving low quality distance education courses	Method for involving leaders in the diffusion of a technology
Source: From W	Jatkins and Schloss	er (2003), based in p	art on Driscoll (199	95) and Briggs (198	2).			- 1-1 11

*Note:* The elements of educational research on distance education (along the top) and research paradigms (down the side) are not intended to represent all possible research in the field. Rather, they offer a reasonable sample and a starting place for those looking to develop a research agenda.

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therefore, the challenge of seasoned researchers in distance education to provide the theories, principles, and models that can be tested through these various research methods.

Guiding the future of distance education can (and should) be a partnership of technology developers and researchers. As researchers in distance education, we can begin to provide leadership in this endeavor by producing a significant base of grounded research now and in the future.

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# Betting on the Right Google Jockey

#### **Craig Ullman**

here's a new buzz phrase in classroom practice these days: "Google Jockey." Self-confessed coiner, Michael Naimark, who teaches at the Interactive Media Division of the USC School of Cinema/Television, asked for a student volunteer to search the Web during his presentation. The search results were projected on a screen adjacent to the professor's own presentation. Students, then,



Craig Ullman, Partner, Networked Politics, 49 West 27th St., Suite 901, New York, NY 12401. Telephone: (646) 435-0697. E-mail: cullman@networkedpolitics.com

were able to see two screens of content, one expounding on or commenting on the other.

Naimark, who has a deep background in interactive media—and was teaching a class on the same subject—came up with a clever phrase for what is safe to assume was an effective and appropriate application for his students.

Flash forward to Educause publishing a paper on Google Jockeys, and another meme escapes its cage to grow and mutate in the general environment. Before this cute little creature becomes a hydraheaded monster, we should build a new cage around him.

The way the phrase is being used currently, a Google Jockey can either use a pre-planned list of URLs, loading each in turn as the subject comes up, or could perform live searches on the subjects and display what he or she has found.

The first definition, the preplanned list, is actually (for the Internet) an old idea. It's called a *Web tour*, and has been around in chat programs since at least the mid-1990s. A user would "push"—type in and send a URL and everyone in the chat room would load the same page. A Web tour, either as a stand-alone experience, or combined with other content on a second screen the teacher is presenting, can be very effective. For instance, the teacher has a PowerPoint slide showing bullet points on the Spanish Inquisition (bet you weren't expecting that), while an adjacent screen shows a drawing of Queen Isabella.

One can argue about what exactly to show, how the two content screens can be synergistic rather than distracting, and so on, but for generations that demand greater visual stimuli, a "two-screen" solution to classroom presentations could conceivably be very effective.

However, watching someone search the Web during a presentation, finding content that may or may not have anything to do with the subject matter being discussed, seems very problematic. Some searching is obvious in context—if the subject is branding and the teacher mentions GE, ok, the student goes to www.ge.com and that's easy enough. But let's go back to the Spanish Inquisition. A Google search on that subject comes back with 2,660,000 results. The first two are from Wikipedia—good enough. The next is Monty Python—probably not what's needed in the moment. Then there's a URL from www.catholic.net. That might be a great article, or it might be a politically suspect site. After a few more Catholic URLs, we find one from www.jewishvirtuallibrary.org, which might be just a tad different from the information on www.catholic.net. Below all this, well, there's a lot more Monty Python.

All these sites might be perfectly valid and substantive and interesting. Or none of that might be true. Or it might be all true, but not relevant or of value with the material the teacher is presenting in the moment. Anyway, it's a roll of the dice.

The students, of course, will love anything, because *they get to watch the pages load* (when you're hungry for visual input, whatever moves is good). But the fact that they enjoy it does not mean it adds to their understanding. So, Google Jockey as complementary Web tour: iSi! Google Jockey as random surfing: iNo!



Perhaps the field needs a visionary leader who can precisely describe distance education in words that are clear and that captivate the imagination of the public. Until then, virtual is probably the word of choice. And finally, whatever happens, we must not use the word *cyberschool*.



Volume 4, Issue 1

## Virtual— Is There a Better Word?

### **Michael Simonson**

irtual is defined as something quasi, or pseudo. Virtual is often a potential state that at some time might become "actual." And, just to add to the confusion, actual is generally considered the opposite of virtual. So, it must be that a virtual school would be a potential school as compared to an actual school.

Increasingly, the popular press and the educational literature talk about distance



Michael Simonson, Editor, Distance Learning, and Program Professor, Programs in Instructional Technology and Distance Education, Fischler School of Education, Nova Southeastern University, 1750 NE 167 St., North Miami Beach, FL 33162. Telephone: (954) 262-8563. E-mail: simsmich@nsu.nova.edu

education—teaching and learning at a distance—as virtual education that happens in a virtual school. Professionals know that distance education is most comprehensively defined as "formal education where the teacher and learner are separated and where communications technologies are used to connect instructors, students, and resources."

This definition of distance education does not imply anything virtual or potential, or pseudo. Rather, distance education is about as real and actual as education can be.

The field probably needs better words to describe the process of educating using technology without the need for the instructor and the learner to be in the same location, or for them to be communicating at the same time. The Florida Virtual School, featured in this issue of *Distance Learning*, says it quite nicely: "Any time, any place, any path, any pace."

A school is an institution where learning occurs because of the efforts of teachers. Most often the school is a physical, actual place—a location that has an address, is visible, and has been there for a long time and will be there for a while to come. There is little if anything virtual about a school.

... continues on page 75