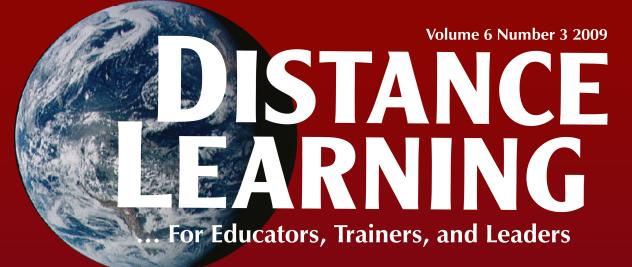
An Official Publication of the United States Distance Learning Association



ARTICLES

- ▲ Kaplan Virtual Education: Schools Designed to Fit the Student
- ▲ Collaborative Knowledge Building: Blending In-Class and Online Learning Formats
- ▲ Converting an Undergraduate Nursing Course to Mostly Online: One Experience
- ▲ Literacy Quest Using Blackboard Technology
- ▲ Multitasking During Chats: At the Intersection of Laundry and Mindful Learning
- ▲ Open Education Students' Perspectives of Distance Teaching of The Principles of Ataturk and the History of Revolution
- ▲ School Guidance Counselors: Are They Distance Education's Biggest Ally?
- ▲ From the Classroom Learning Community to a Web-Enabled Community of Practice
- ▲ Establishing Military Remote Learning Centers
- ▲ Teleradiology and Teleneurology: Serving Health Care Needs
- ▲ Getting Connected to the California K-12 High Speed Network: An Overview of Services and Applications
- ▲ USDLA Award Winners

COLUMNS

- ▲ Ends and Means
- ▲ Try This
- ▲ And Finally ...



in partnership with:





In this issue the spotlight is on

Kaplan Virtual Education

DISTANCE LEARNING

FEATURED ARTICLES

1	SPOTLIGHT ARTICLE KAPLAN VIRTUAL EDUCATION: SCHOOLS DESIGNED TO FIT THE STUDENT Nancy Maldonado and Andrew Ordover
7	Collaborative Knowledge Building: Blending In-Class and Online Learning Formats <i>Margaret Riel and Paul Sparks</i>
15	CONVERTING AN UNDERGRADUATE NURSING COURSE TO MOSTLY ONLINE: ONE EXPERIENCE <i>Nova Ann Todd</i>
23	LITERACY QUEST USING BLACKBOARD TECHNOLOGY <i>Cherie Roberts, David E. Walker, and</i> <i>Regina A. Bobak</i>
31	Multitasking During Chats: At the Intersection of Laundry and Mindful Learning Constance E. Wanstreet and David Stein
37	OPEN EDUCATION STUDENTS' PERSPECTIVES OF DISTANCE TEACHING OF THE PRINCIPLES OF ATATURK AND THE HISTORY OF REVOLUTION <i>Kadir Ulusoy</i>
47	School Guidance Counselors: Are They Distance Education's Biggest Ally? Sonya R. Durden
53	FROM THE CLASSROOM LEARNING COMMUNITY TO A WEB-ENABLED COMMUNITY OF PRACTICE James M. Greer
61	Establishing Military Remote Learning Centers David M. Lorenz
67	TELERADIOLOGY AND TELENEUROLOGY: SERVING HEALTH CARE NEEDS Joan M. Rehnert
73	GETTING CONNECTED TO THE CALIFORNIA K-12 HIGH SPEED NETWORK: AN OVERVIEW OF SERVICES AND APPLICATIONS David Billett
83	USDLA Award Winners

COLUMNS

ENDS AND MEANS Differentiating Instruction in Online Environments 87 -by Natalie B. Milman

TRY THIS Student Engagement, **Motivation, and Rapport** 90 -by Errol Craig Sull

AND FINALLY Inevitable? Do You Really Think So? -by Michael Simonson

96

EDITOR

Michael Simonson simsmich@nsu.nova.edu

MANAGING EDITOR Charles Schlosser cschloss@nsu.nova.edu

ASSISTANT EDITOR

Anymir Orellana orellana@nsu.nova.edu

EDITORIAL ASSISTANT Khitam Azaiza azaiza@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

Advertising

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 University 1750 NE 167th St. North Miami Beach, FL 33162 954-262-8563 FAX 954-262-3905 simsmich@nova.edu

PURPOSE

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

SPONSORS

The United States Distance Learning (USDLA) is the professional organization for those involved in distance teaching and learning. USDLA is committed to being the leading distance learning association in the United States. USDLA serves the needs of the distance learning community by providing advocacy, information, networking and opportunity. www.usdla.org

The Fischler School of **Education and Human** Services (FSEHS) of Nova Southeastern University is dedicated to the enhancement and continuing support of teachers, administrators, trainers and others working in related helping professions throughout the world. The school fulfills its commitment to the advancement of education by serving as a resource for practitioners and by supporting them in their professional self development. The school offers alternative delivery systems that are adaptable to practitioners' work schedules and locations. School programs anticipate and reflect the needs of practitioners to become more effective in their current positions, to fill emerging roles in the education and related fields, and to be prepared to accept changing responsibilities within their own organizations. FSEHS—NSU 1750 NE 167th St. North Miami Beach, FL 33162 800-986-3223 www.schoolofed.nova.edu

INFORMATION AGE PUBLISHING

11600 North Community House Road, Ste. 250 Charlotte, NC 28277 (704) 752-9125 (704) 752-9113 Fax www.infoagepub.com

SUBSCRIPTIONS

Members of the United States Distance Learning Association receive Distance Learning as part of their membership. Others may subscribe to Distance Learning. Individual Subscription: \$60 Institutional Subscription: \$150 Student Subscription: \$40

DISTANCE LEARNING

RESOURCE INFORMATION:

Visit http://www.usdla.org/ html/resources/dlmag/ index.htm Advertising Rates and Information: 800-275-5162, x11 Subscription Information: Contact USDLA at 800-275-5162 info@usdla.org

DISTANCE LEARNING MAGAZINE SPONSORED BY THE U.S. DISTANCE LEARNING ASSOCIATION FISCHLER SCHOOL OF EDUCATION, NOVA SOUTHEASTERN UNIVERSITY AND INFORMATION AGE PUBLISHING

MANUSCRIPT PREPARATION GUIDELINES

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.

1. Your manuscript should be written in Microsoft Word for Windows. Save it as a .doc file and also as a .rtf file. Send both versions on a disk or CD.

2. Single space the entire manuscript. Use 12 point Times New Roman (TNR) font.

- 3. Laser print your paper.
- 4. Margins: 1" on all sides.

5. Do not use any subheadings, page numbers, or embedded commands. Documents that have embedded commands, including headers and footers, will be returned to the author.

6. Include a cover sheet with the paper's title and with the names, affiliations and addresses, telephone, email, and fax for all authors.

7. Submit the paper on a $3\frac{1}{2}$ inch floppy disk or CD that is clearly marked. The name of the manuscript file should reference the author. In addition, submit two paper copies. A high resolution .jpg photograph of each author is required. Send the disk and paper copies to: Michael R. Simonson

Editor Distance Learning Instructional Technology and Distance Education Nova Southeastern University Fischler School of Education and Human Services 1750 NE 167th Street North Miami Beach, FL 33162 simsmich@nova.edu (954) 262-8563

The Manuscript

To ensure uniformity of the printed proceedings, authors should follow these guidelines when preparing manuscripts for submission. DO NOT EMBED INFORMATION. YOUR PAPER WILL BE RETURNED IF IT CONTAINS EMBEDDED COMMANDS OR UNUSUAL FORMATTING INFORMATION.

Word Processor Format Manuscripts should be written in Microsoft Word for Windows.

Length

The maximum length of the body of the paper should be about 3000 words.

Layout

Top and bottom margins: 1.0" Left and right margins: 1.0"

Text

Regular text: 12 point TNR, left justified Paper title: 14 point TNR, centered Author listing: 12 point TNR, centered Section headings: 12 point TNR, centered Section sub-heading: 12 point TNR, left justified

Do not type section headings or titles in allcaps, only capitalize the first letter in each word. All type should be single-spaced. Allow one line of space before and after each heading. Indent, 0.5", the first sentence of each paragraph.

Figures and Tables

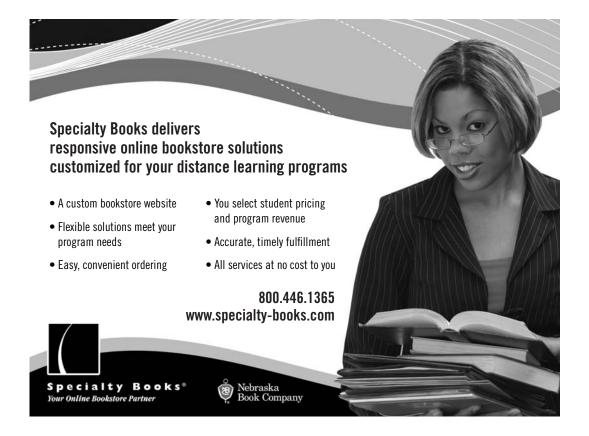
Figures and tables should fit width $6\frac{1}{2}''$ and be incorporated into the document.

Page Numbering

Do not include or refer to any page numbers in your manuscript.

Graphics

We encourage you to use visuals—pictures, graphics, and charts—to help explain your article. Graphics images (.jpg) should be included at the end of your paper.



IN UPCOMING ISSUES

A Vision for the Next Generation of Online Higher Education

Effect of Student Location on Assessment of Instruction and Grade Assignment

Connections Academy

CompassLearning and its Effectiveness Among At-Risk Students in Math and Reading

Global Perspectives in Distance and Open Learning and Open Educational Resources

An Examination of Virtual Schools and Their Culture

Developing Math and Science Teacher Pedagogical Skills Through Electronic Mentorship

Education a la Carte: The New Jersey Virtual Community College Consortium Maria Puzziferro and Kaye Shelton

Bassam Shaer, Mohamed A. Khabou, and Andreas Fuchs Christopher B. Ward

Raymond Carver

lleana P. Gutierrez

Sherry Marrotte-Newman

Daniel Prouty

Paula A. Williams

Kaplan Virtual Education Schools Designed to Fit the Student

Nancy Maldonado and Andrew Ordover

INTRODUCTION

In today's changing world, technology is revolutionizing the ways in which students can be educated. No longer must a student be destined to failure within the confines of the traditional brick and mortar school. Whether it is a student with learning disabilities who needs to study from home, a student who must tend to health concerns, a student who must balance school with work or sports, or a student who merely prefers home schooling, virtual high schools can be a great choice. KVE's pairing of technology with strong pedagogy offers educational opportunities that prepare all of today's students for the twenty-first century.

WHO IS THE KVE ONLINE STUDENT?

Matt is an energetic seventh grader. His room is filled with pieces of the graphic novel he is writing and illustrating himself. Some of those pieces end up posted on his website. He estimates that he spends about two hours a day either working on the novel or looking at websites or postings of



Nancy Maldonado, Director of School Policy and Communications, Kaplan Virtual Education. Telephone: Tel: (305) 773-5256. E-mail: nmaldonado@kaplan.edu



Andrew Ordover, Director of Academics, Kaplan Virtual Education. Telephone: (520) 730-3600. E-mail: Aordover@kaplan.edu

others. He is quick, curious and interested in the world, but sitting in a classroom has never engaged his attention or imagination. He was a successful student in elementary school, but his grades began to fall when he started middle school.

Esme is a sweet, shy girl. Her parents recently divorced, so she has had to adjust to living in both parents' houses. Esme plays the flute and participates in a community youth orchestra. She has two "best friends" who live close to her Mom's house, so she divides her time by hanging out with them, going to the movies, and shopping. When at her dad's, she keeps in touch by texting. The educational challenge is that her parents now live in two different school districts, and it is difficult for her father to get her to and from school every morning when she stays with him.

Anthony is at home recovering from several surgeries following an automobile accident. His doctor anticipates that he will return to school in six months, but for now, he needs help at home. Prior to the accident, Anthony ran track for his school, worked out with his older cousins on weekends, and worked after school. Now, he is bored. He tries to keep busy with his schoolwork but has trouble sitting for long periods of time. A tutor visits his house twice a week, but during the days and hours when Anthony is alone, he has trouble staying focused and engaged in his work. When he does try to do his schoolwork, he has nowhere to turn for help.

Raqui learned she was pregnant during the summer before her senior year of high school. She had always done well in school, but the combination of the pregnancy, working at the mall, and moving out of her parents' house made it impossible for her to keep up with her studies. Today, her baby is in a childcare center close to home, and Raqui is ready to go back to school full time—if only she could have some flexibility. She can't afford allday childcare, and she still has to work at the mall. She knows that she needs to bring up her math and science scores to graduate. Her plan is to go to nursing school and, eventually, medical school.

Matt, Esme, Anthony, and Raqui are not real students, but personas created by the Instructional Team at KVE to represent types of students who enroll in our online learning programs—some part time, some full time. These personas help to identify typical students who need online learning and to focus on what their needs might be. Many students choose online education because they have grown tired of having to adapt themselves to the format of traditional schooling-the classrooms, the class periods, the daily schedule, and the pacing of the curriculum. While many progressive and experimental schools exist across the United States, most students encounter a schooling model that has remained essentially unchanged for more than a hundred years. School tells children, "This is what school is. Your job is to fit into it, regardless of who you are." There is little room for flexibility. At KVE, we believe the school should shape itself to fit the student.

OUR LEADERSHIP

Our vision for excellence in distance learning stems from the leadership within Kaplan, Inc. Our leaders have strived to incorporate the best in pedagogical theory, unsurpassed technology for the new millennium, and staff committed to excellence in the online education environment.

KVE President, Charles Thornburgh, notes:

As we work to adapt and improve our education system, we are discovering that today's students have a broad variety of needs and require more options in order to reach their goals. The growing demand for a more flexible learning experience has inspired Kaplan Virtual Education to provide middle and high school students with a personalized and engaging educational alternative, integrating one-on-one support, a robust curriculum, flexible instruction, and innovative technology. Free from the constraints of traditional schooling, students are discovering a world of possibilities.

In the past decade, the number of students participating in online learning has skyrocketed. We are seeing tremendous growth, not just in numbers but also in the type of students online learning attracts.... Increasingly, we are finding students turning to online education for a variety of different reasons–whether they are ahead of their classmates and are seeking more advanced coursework to attend a top-tier university, or live outside the country and are searching for a school in the U.S., or are adults in the workforce who are now seeking a high school diploma to advance their career.

OUR SCHOOLS

KVE offers flexible, online education through its private and public schools. Each program answers a student's or a district's individual needs and allows students flexible scheduling and online access to coursework.

KVE PRIVATE SCHOOLS

KVE offers three private online schools. These schools offer a range of curriculum for students in need of alternative education due to scheduling, sports, work, life situations, or to supplement their current high school curriculum in preparation for college.

Kaplan College Preparatory School (KCPS) is a private, accredited online college preparatory school for students in Grades 6-12.

Kaplan High School (KHS) is designed for students in grades 9-12 who prefer independent study and are able to work at a self-directed pace to achieve academic success according to their individual needs and schedules.

Kaplan University High School (KUHS) provides adults the opportunity to com-

plete their high school education and earn a diploma from an accredited institution.

KVE PUBLIC SCHOOLS

KVE offers public schooling through partnerships with various public education organizations in a number of states including California, Florida, Arizona, Kansas, Washington, Colorado, Oregon, Wisconsin, Virginia, and Idaho. Through these partnerships, KVE enables states and school districts to expand the range of courses offered to students and to offer high-quality instruction to students in many alternative educational settings.

OUR CURRICULUM MODEL

KVE designs courseware through its curriculum development division and uses courses licensed from curriculum vendors, which are selected on the basis of quality and comprehensiveness. KVE undertakes an evaluation of the curriculum itself, its level of engagement, and its flexibility for use with students of different populations.

The core course offerings cover all the essential subject divisions within each of these academic areas: language arts, mathematics, history/social studies, and science/ health. KVE also offers an array of electives reflecting a wide range of student interests, including communications and the professions, fine arts, liberal arts, computer technology, practical skills, and career-oriented courses that focus on real-life experiences. KVE offers courses in Advanced Placement, Honors, Academic (grade-level), and Foundations levels.

Every course offered by KVE is built on research-based online instructional strategies and learning models, using rich interactive and multimedia elements to capture students' attention, to keep them engaged in the lesson, and to help them grasp difficult concepts and processes. The primary goals of our courses are to expand learning opportunities, improve student outcomes, and empower students to manage their own learning. These goals guide content creation, design, and delivery: accessibility for all students, flexible pacing, multiple opportunities to achieve and demonstrate mastery, and development of a studentcentered curriculum that is continually improved through research and iterative evaluations that guide refinements to its design and delivery.

OUR INSTRUCTIONAL STRATEGIES

Online education is often criticized because of a perceived lack of social interaction. Critics imagine students sitting at home, alone, in a silent room, abandoned by both peers and caring adults. Nothing could be further from the truth. Today's Internet is a collection of communities where people come to connect. The Internet is the way many of today's teenagers already connect with the outside world, make and maintain friendships, and learn. An online learning environment provides an excellent vehicle for social cognitive learning through meaningful learning communities that create a sense of belonging.

An online school cannot be defined by its online curriculum any more than a brick and mortar school can be defined by its textbooks. A school, whether traditional or online, is an intricate network of relationships, conversations, and activities. Our teachers create and maintain educational relationships with students in a variety of ways making use of instructional strategies, both synchronous and asynchronous.

ELLUMINATE SESSIONS

Elluminate sessions allow teachers to hold live class sessions in cyberspace, bringing students together in real time using an interactive whiteboard platform that allows participants to speak, write, show video, and run presentations. Teachers use Elluminate sessions to demonstrate classroom concepts, supplement curriculum, and foster school community in a number of ways. We have seen dramatic presentations for English classes, virtual museum tours in art history classes, group problem solving in math classes, teacher demonstrations of lab experiments in science classes, vocabulary pronunciation practice in foreign language classes, and opportunities for group discussions across multiple classes.

Elluminate sessions allow teachers to group students in a number of different ways. Sometimes they bring entire class sections together; other times they may meet with individuals, pairs, or small groups. It is a perfect tool for differentiating instruction, allowing teachers to provide the level of support that each student needs without having to worry about what the rest of the class is doing. Students who require occasional coaching, but who can otherwise work independently, can do so using live sessions as interesting supplements to their core work. Students who require more direct instruction and live interaction to complete their work have regular live access to teachers and fellow students to have concepts reviewed or retaught. We have found that students who regularly attend live sessions become more engaged learners, develop stronger relationships with their teachers, and gain a deeper understanding of curricular concepts.

These sessions are recorded so that they can be made available for review or for students who are unable to attend the session. Teachers may also post archived sessions in our online Faculty Lounge to help peers in their own school or other KVE schools.

INSTANT MESSAGING

Instant messaging is a vital part of establishing and maintaining instructional and personal relationships between students and teachers in an online school. It keeps students connected to their teachers when they work from home and lets them know that help is always just a click away. It gives teachers an opportunity to provide the kind of individual assistance and tutoring they often find difficult to provide in a brick and mortar setting. It also allows both students and teachers to participate in—and pull away from—an ongoing instructional conversation so they can move at their own pace to meet their own needs. As students do their work, they can "check in" with the teacher using instant messaging and then turn their attention back to their work without the teacher needing to "walk away."

Instant messaging is also less ephemeral than a live conversation. What is said does not have to be lost in the moment. Participants can scroll back at any time to review what was said earlier. Instant message threads can also be saved as Word or Text files by students or teachers for future reference.

ASSESSMENTS

An instructional strategy often overlooked is assessment. Because assessments in a brick and mortar school are often centered on standardized tests, they are often not constructive or formative. At KVE, assessment is one of the major tools that online teachers use with their students. Because the students are not sitting in front of the teacher, a higher value is placed on students' work. It is how the teachers "know" the students. Because of this dynamic, teachers spend more time on the assignments. Constructive feedback is given to the student, usually within 48 hours. This allows the students to revise and grow from every assignment. It also allows both teacher and student to ask questions of each other and to LISTEN to the answers given. Students learn by asking questions. The comments made on assessments open new avenues for discussions

OTHER STRATEGIES

Teachers use various other strategies to assist students in understanding assignments. These include graphic organizers, study guides, outlines, VoiceThreads, videos, webquests, podcasts, providing links to websites, telephone tutorials, and video e-mails.

MEETING INDIVIDUAL LEARNING CHALLENGES

Our teachers see each student as a unique individual. For this reason, they work hard to create a pathway for each student to reach success. Teachers monitor to ensure that students are placed correctly in their courses. This sometimes involves moving students from Academic sections to Foundations level, or the opposite, encouraging students to move into Honors sections to encourage their growth and development. Even if students are placed correctly, they still may need something that other students do not need. Teachers often create special work sessions to help students who need remediation or provide advanced topics and assignments to higher-level students who require more challenge.

OUR COMMITMENT TO TEACHERS

We recognize that the online teaching environment is quite different from the traditional classroom. In fact, in many ways, when teachers begin to work online, it is as if they are first-year teachers again. Professional development and ongoing support for teachers is a vital part of KVE's success.

PROFESSIONAL DEVELOPMENT

At KVE, we continually discuss and evaluate how to define the teacher's role, how to focus more of our efforts on instruction, and how to train and support our teachers. Our teaching community is also a learning community. Because of this, professional development is not considered something that has to be "delivered" from the top down. It is, instead, an ongoing professional dialogue involving every aspect of our organization.

This ongoing dialogue takes place through workshops, live meetings, conference calls, and in our online Faculty Lounge. The Faculty Lounge provides training materials, demonstrations and tutorials, information on technology, reading lists, and connections to other staff members across the country. It creates a national network of online teachers—a place to go for ideas, materials, or just a chance to chat.

SCHOOL SITE CONTINUOUS

At the school site, principals and teachers examine and analyze school data and then set obtainable goals. They hold weekly departmental and staff meetings to examine student achievement and discuss ways to help specific students. Principals and teachers also participate in collaborative staff training using Elluminate. Teachers work together, within and across schools, using email and instant messaging.

As one of our teachers has noted, "The administration promotes a 'willing to learn' attitude regarding KVE schools."

We know that the best teachers are also the best learners, and we believe this is true for organizations as well. Our goal is to learn and grow together. We know that teachers who feel fulfilled and happy tend to have higher-performing students and tend to stay with the organization longer.

REAL STORIES, REAL SUCCESSES

We began this article with student "personas," our way of imagining the types of situations and challenges that lead students to pursue online education, to ensure that we are designing and implementing programs that meet the real needs of real students. We conclude with some of those real students. All student names have been changed.

Roger suffered years of ridicule because of his obesity, and drugs had become the only way he could cope with the pressure he was feeling from his peers. He was working through a serious drug problem. His mother sent him to counseling, but he needed a change in environment to cure his dependency. With our online school, she felt confident that Roger would be able to focus more clearly on his education and focus less on the negative influences of his former school. Roger began working diligently in his courses and became more interested in some of his former hobbies and healthier habits. He regained his selfconfidence and has moved away from drugs and negative influences.

Grace has been dealing with Lyme disease, which saps her energy level. There are days she can barely get out of bed. Attending a brick and mortar school on a regular basis was simply not possible for her. Our school has allowed her to gain high school credits in her own way and work toward her goal of attending and graduating from college.

Carlos is an autistic student with several learning disabilities. He has difficulty organizing information, knowing how to limit research, and writing. In cooperation with his mother, his teacher was able to modify the work through the use of graphic organizers and alternative assignments. Carlos was able to work at his own pace, review readings and assignments as often as necessary, and ask questions without risk of embarrassment. Carlos completed the last semester with a grade of "A."

OUR FUTURE

Now and in the future, we will continue to fulfill our core values. By adhering to our core values of integrity, opportunity, knowledge, support, and results, we provide our students the educational opportunities they deserve and the educational experience that will prepare them for the twenty-first century.

Collaborative Knowledge Building Blending In-Class and

Online Learning Formats

Margaret Riel and Paul Sparks

INTRODUCTION

P rograms that promote collaborative knowledge building are smart to exploit all effective formats and methods. Blended learning—a mixture of in-class and online learning—provides an effective combination of interpersonal and intellectual supports for learning (Means, Toyama, Murphy, Bakia, & Jose, 2009). It also supports a wide range of learning methods. At one end of the continuum, courses are conducted primarily in-class and extended using online discussions. In this format the in-class learning drives the online learning. At the other end, online programs use in-class time to build the community, enabling more authentic student sharing. Blended programs appear best able to capitalize on the social infrastructure of learning, incorporating conceptual and practical learning outcomes, making good use of the social capital of the



E-mail: margaret.riel@pepperdine.edu



Paul Sparks, Associate Professor and Cochair of the Online Master of Arts in Learning
Technologies, Pepperdine University Graduate School of Education and Psychology,
6100 Center Drive, Los Angeles, CA 90045. Telephone: (310) 568-5600.
E-mail: paul.sparks@pepperdine.edu

students, and maximizing the online learning space. While discussions of online or blended learning tends to focus on technology, the orchestration of the learning community (Garrison & Vaughan, 2008; Palloff & Pratt, 2005; Polin, 2003) is most critical for collaborative knowledge building (Berieter, 2002; Bereiter & Scadamalia, 1993).

LECTURING, KNOWLEDGE BUILDING AND ONLINE LEARNING

Lectures are demonstrations of how one person, the professor, builds knowledge from disparate sources. The professor uses his or her theoretical orientation, research experience, personal stories, and connection with the field to demonstrate how he or she builds knowledge. Research, books, articles, and other sources are blended together by the professor into compelling stories of the histories of ideas. It is a process that leaves the students to watch and learn in a passive receptive way. Thoughtful students understand that they need to do more than listen to the content; some see the lecture as a "model" of the process of integrating information from different sources to create new knowledge. They understand the message is in the method. However, most students have only an implicit understanding of this model of learning. For them, the learning is a onedirectional transfer-professors impart their work to their receptive students. The focus is on the content, the story and not the process of storytelling. Many professors first approach teaching online as a way to move lectures online. Recent metaanalyses suggest that even with this limitation, blended learning shows a small to medium effect size advantage over in-class learning (Means et al., 2009). This may, in part, be due to the fact that students in blended programs were found to spend more time on their studies. However if blended learning leads to a greater investment in learning, that, in itself is an important finding.

While there is value in listening to experts, building collaborative knowledge requires action and innovation. To learn how to build knowledge from evidence, experience, and theory, students need to develop the authority of their own ideas (Berieter, 2002; Bruffee, 1999). The online environment is very different from the classroom. Researchers suggest the online environment is better suited for a form of learning called collaborative knowledge building (Berieter, 2002; Polin, 2003). Discussion forums are not limited by time or by the need for one person to speak at time. Students can more efficiently be placed in the role of integrating information from different sources, dealing with contrary evidence, and making sense of the different perspectives. The role of the professor can shift from modeling the sense-making process (lecturing) to providing feedback on the process of knowledge building. With more experience in the online context, professors learn to use resources and activities that challenge students to make sense of ideas collectively. They do this by asking probing questions that stimulate insightful ideas, rather then providing them. While no one student is likely to create knowledge that rivals the professor, the students acting as a form of distributed cognition (Salomon, 1993), may be able to create a narrative that has intellectual merit.

Engaging students in active knowledge building can happen in-class in smaller "discussion" courses. However, classroom discussions are often controlled by the verbally strong students and time becomes limiting. Another challenge to in-class knowledge building is original idea development while listening to others. In-class time constraints can lead to competition to voice one's ideas, limiting thoughtful attention to what others are saying. Furthermore, the dialogue is limited to what is presently known. Finally, metacognitve, reflective awareness competes with the heavy cognitive demands of the verbal channel.

Asynchronous discussion forums provide a context for collaborative knowledge building (Collison, Elbaum, Haavind, & Tinker, 2000; Conrad & Donaldson, 2004; Garrison & Vaughan, 2000; Polin, 2008). In collaborative knowledge building, there is the opportunity for many perspectives to emerge with less centralized control. There is time to collect and consider the role of both supportive and contrary evidence. Ideas can be revisited, revised, and explored from multiple perspectives. Online discussion forums remove the tension of balancing listening with thinking and allows for more equitable access for those who are more reflective in nature. Collaborative knowledge building provides the foundation of learning that is reflective and generative (Bereiter, 2002; Bransford, Brown, & Cocking, 1999; Dewey, 1916). The switch away from lectures to knowledge building activities takes advantage of the expertise of the students. In graduate programs with midcareer students, collaborative knowledge building leverages resources that students bring to the learning context.

Of course, both online and in-class discussion can be superficial, and so best strategies for creating a more reflective context for collaborative knowledge building remain a challenge (Collison et al., 2000; Polin, 2008). Professors engaged in this process understand that collaborative knowledge building involves taking risks and relies on a high degree of trust and respect (Bryk & Schneider, 2002). Sharing one's thinking almost always involves some degree of interpersonal risk. Despite affordances of online environments for reflection, in-class settings have proven to be more effective for building and maintaining the relationships that underlie success in this process.

BLENDING INTERPERSONAL AND INTELLECTUAL SUPPORT FOR COLLABORATIVE KNOWLEDGE BUILDING

Many research comparisons on blended learning are directed toward understanding how teaching and learning initially change when it migrates online (Parkhurst, Moskal, Downey, Lucena, Bigley, & Elberb, 2008; Power, 2008). These comparison studies miss the shift from lecturing to supporting collaborative knowledge building, a transformation that happens after multiple years of developing expertise in online teaching. Despite this limitation, a recent meta-analysis of online programs, mostly graduate-level, found positive outcomes for blended online learning compared to in-class learning, noting that that the blended conditions often included additional learning time and instructional elements not received by students in the the fixed time periods of classroom instruction (Means et al., 2009). However, these findings are largely based on controlled studies where an in-class course was moved online by professors with little or no experience teaching online. While these comparison studies are important initially to validate blended learning, the field is close to accepting that quality teaching can take place in range of settings. More research is needed to explore the pedagogical shifts that take place both online and in-class within mature programs of blended learning.

At the Pepperdine University Graduate School of Education and Psychology (GSEP), whole programs are designed around a blended context with students meeting in-class and online. The faculty members in these programs have decades of experience teaching online which have helped them to evolve teaching strategies and practices that support collaborative knowledge building. They promote an environment in which students are actively engaged and able to direct their learning. Rather than capturing lectures as learning objects, professors design activities, ask questions, and challenge responses in ways that encourage students to use theory and data to understand relationships and develop their own knowledge. Extensive faculty online expertise shapes the way that in-class time is used to support and extend collaborative knowledge building.

Three in-class stages have evolved to support collaborative knowledge building. An introductory "learning camp" (three to four days) prepares students socially and emotionally for highly collaborative learning. Critical in these first encounters is building the interpersonal norms of trust, respect and collaboration. Regular in-class sessions (one or two per semester) satisfy the need for social reconnection and introduction to a larger community of experts. A culminating final in-class session serves as a showcase of individual and group work. Examples of in-class learning at each of these different stages in the learning will be presented.

PREPARING STUDENTS FOR COLLABORATIVE KNOWLEDGE BUILDING

Students come to the university with expectations that they will be learning from their professors and working independently by reading and writing papers. Students are unprepared to engage in a process of collaborative sense-making from evidence. Collaborative knowledge building asks students to take risks and share emergent ideas, requiring some preparation. The introductory in-class experience helps students develop the interpersonal skills, shared norms, and metacogitive dispositions that will support their learning. These activities go beyond what others have described as ice breakers and are designed to prepare students for a different approach to online interaction-one

through which they will be more actively involved.

An initial objective for the in-class activities is the sharing of individual identities and encouraging the development of a group identity. When introductions are structured as activities, they help to provide some reflective space to consider one's own sense of identity within the larger context of the community. These activities (drawing and sharing professional portraits, filming and editing video introductions of a team, or experimenting with and debating the value of different personality classification tools) engage students in a form of risk-taking in sharing a reflective or metacognitive sense of self. The social experience of doing these activities in small groups helps students begin the process of making memories that will later support making meaning.

A second important objective for the initial in-class activities is to help the community develop group norms, specifically those of trust, respect, interdependence, risk-taking. openness, and Students receive complex, multiday challenges that would be very difficult for any one person to accomplish, but can be solved by groups of people working together. These activities include challenges with robotics, filmmaking, food preparation, and problem solving. Individual and group reflective activities help the students attend to both what is happening and how their perceptions, emotions, and ideas relate to what others are experiencing. The metacognitive levels of these reflections help students begin to evolve a sense of community norms.

These learning quests and activities are not focused on learning about technology, but rather engage students in learning with technical tools. By watching how students learn to use new tools, as well as who emerges as the leaders and who is easily frustrated, the professors can take the pulse of the learning community. They can see how the students react to what appear to be impossible challenges. The success of the group with tasks that at first appear extremely difficult provides a metaphor for the potential of collaborative knowledge building. Through distributed learning and teaching during activities, the students acquire comfort and skill with the tools that they will need to use throughout the program. For example, in one activity, the students use social networking tools, access to the digital library, and community web space to create a reading room of resources around a course topic.

ENGAGING STUDENTS IN KNOWLEDGE BUILDING MIDSTREAM

The in-class sessions are intermittently used to reconnect the community and extend the trust that will make it possible for students to take additional risks and acquire the expertise they need. Trust building is iterative. Collaborative knowledge building requires flexibility for the group to reshape a course as they work through the ideas. Students are an important source of the content of the course. They bring valuable resources and, with the development of trust and respect, students can come to rely on the social capital of the community. The process of building knowledge often involves a process of reculturation of students (Bruffee, 1993). The following example is an illustration of this technique of using the in-class meetings.

Students in the GSEP Online Masters of Arts in Learning Technologies program are engaged in yearlong action research. Midyear, they are collecting evidence to understand change in their workplace and need help with qualitative analysis for dialogue transcripts or open-ended survey questions. In a traditional course, the professor would prepare a lecture on research methods. In collaborative knowledge building, the assumption is that the action researchers are new researchers and they need to learn from the community, including members in their group, their professor, and even the authors of their course texts. Students work together online in learning circles (Riel, 2009) to mobilize their resources, formulate a research question, and analyze the data.

The in-class session serves as a sharing of both the outcomes and process of doing the analysis. This work produces a rich discussion of research methods and a significant group-to-group discussion of the value and validity of different approaches. Each group employs varied and often innovative methods for working with the data, and in doing so uncovers different research problems. Collectively, they find a way to deal with most of the central problems that would make up the content of a lecture on qualitative research methods. The role of the professor is to share the ways in which the larger research community deals with similar issues. This process of discovering and building the practices of the profession encourages students to appreciate the role of community in knowledge building. They develop an understanding of how what they are doing-building shared knowledge-is what takes place across larger communities and across greater periods of time.

When students are asked to do something that they have not been taught to do, they are taking risks. Removing the risks of grades in this assignment promotes students' will to experiment with innovative thinking both at the cognitive and metacognitive level. The approaches to data analysis are rich and diverse, and always lead to great discussions about what is valid or reliable evidence to make claims. The content of the class meeting is always different, as what the students bring to the class is different. If there are strong researchers in one or more of the groups, those students emerge as the community experts and establish this identity. The depth of research knowledge within our community is made apparent. This embedded assessment of the group knowledge is

essential for making choices of how to modify the education course to meet the needs of each specific group of students.

CULMINATING EXHIBITIONS OF STUDENT WORK

Collaborative knowledge is celebrated at the end of coursework in a culminating event. One example from the doctoral Learning Technologies program at GSEP is a consultancy project in which students use what they have learned to help a school, organization, or business in some way, often through the use of technology, or a comprehensive project in which students present their application of theory in their workplace. In the Masters in Learning Technologies program, the event is a conference. In-class time is used to prepare students for presenting their knowledge building work to the larger educational community.

The work of action research is collaborative knowledge building with evidence and reflection. The Action Research Exhibition Conference engages students in building knowledge with the larger educational community. The conference is webcasted and involves the participation of prior cadres as reviewers of student work. The best examples of action research are then published online in the Center for Collaborative Action Research (cadres.pepperdine .edu/ccar). This makes their evidencebased analysis of their successes and failures in their workplace a resource for others who are interested in trying similar projects. When their work is shared beyond the course, it takes on a new value as it prepares future action researchers who can evolve a theory of action informed by the experiences of others.

This common experience of sharing research as peers leads to a strong sense of identity. In addition, students are committed to continue as researchers presenting at other conferences, further enhancing this new sense of identity. Wenger (1998) suggests that, by changing our participation in the world, continuous framing and reframing of identity within a community, we transform our identity.

SUMMARY

Collaborative knowledge building benefits from intelligently blending in-class and online learning formats. The pedagogy of the professors and the designs for learning that are used in both the in-class and online context are key. The shift from lecturing to collaborative knowledge building changes the nature of the course of learning in fundamental ways. It addresses the split between what is learned from books and what is learned in experiences, a schism that has worried educators over the past century.

As societies become more complex in structure and resources, the need for formal teaching and learning increases. As formal teaching and training grows, there is a danger of creating an undesirable split between the experience gained in direct association and what is acquired in school. This danger was never greater than at the present time, on account of the rapid growth in the last few centuries of knowledge and technical modes of skill. (Dewey, 1916, p. 9)

For many administrators, the move to online is driven by the same economics that has over a thousand students registered for lecture courses at Harvard. While the Internet makes it possible to make lectures available to millions of students, it is more intelligently used to support learning communities socially forged via in-class environments to engage students in collaborative knowledge building. Blended formats should be reconceived as an emergent context for new forms of participation in intellectual discourse. Understanding how knowledge, technology, community, and identity intersect may

help perfect collaborative knowledge building in the future.

REFERENCES

- Bereiter, C. (2002). *Education and the mind in the knowledge age*. Mahwah, NJ: Erlbaum.
- Bereiter, C., & Scardamalia, M., (1993). Surpassing ourselves: An inquiry into the nature and implication of expertise. La Salle, IL: Open Court.
- Bransford, J., Brown. A., & Cocking, R. (Eds.). (1999). How people learn: Brain, mind, experience and school. Washington, DC: National Academy Press.
- Bruffee, K., (1993). Collaborative learning: Higher education, interdependence, and the authority of knowledge. Baltimore: Johns Hopkins University Press.
- Bryke, A. S., & Schneider, B. (2002). *Trust in schools: A core resource for improvement.* New York: The Russell Sage Foundation.
- Collison, G., Elbaum, B., Haavind, S., & Tinker, R. (2000). Facilitating online learning: Effective strategies for moderators. Madison, WI: Atwood.
- Conrad, R., & Donaldson, A. (2004). Engaging the online learner: Activities and resources for creative instruction. San Francisco: Wiley/ Jossey-Bass.
- Dewey, J. (1916). *Democracy and education*. New York: The Free Press.
- Garrison, D. R., & Vaughan, N. D. (2008). Blended learning in higher education: Framework, principles, and guidelines. San Francisco: Jossey-Bass.
- Means, B., Toyama, Y., Murphy, R., Bakia, M., Jose, K. (2009). Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies. Washington, DC: U.S. Department of Education, Office of Planning, Evaluation, & Policy Development Policy and Program Studies Service. Retrieved June 28, 2009, from the Department of Education Web site: www.ed.gov/ about/offices/list/opepd/ppss/reports.html

- Palloff, R., & Pratt, K. (2005). *Collaborating Online: Learning together in community.* San Francisco: Jossey-Bass.
- Parkhurst, R., Moskal, B. M., Downey, G. L., Lucena, J., Bigley, T., & Elberb, S. (2008). Engineering cultures: Online versus in-class. *MERLOT Journal of online Learning and Teaching*, 4(4). Retrieved June 22, 2009, from the MERLOT site: http://jolt.merlot.org/vol4no4/ moskal_1208.htm
- Polin, L. (2003). Learning in dialogue with a practicing community. In T. Duffy & J. Kirkley (Eds.), Learner-centered theory and practice in distance education: Cases from higher education (pp. 17-48). Mawah, NJ: Erlbaum.
- Polin, L. (2008). Graduate professional education from a community of practice perspective: The role of social and technical networking. In P. Hildreth & C. Kimble (Eds.) *Communities of practice: creating learning environments for educators* (Vol. 2, pp 17-48). Charlotte, NC: Information Age.
- Power, M. (2008). The emergence of a blended online learning environment. MERLOT *Journal of online Learning and Teaching*, 4(4), 1-12. Retrieved June 22, 2009, from http://jolt .merlot.org/vol4no4/power_1208.htm
- Riel, M. (2009). The learning circle model: Building knowledge through collaborative projects. Online Learning Circles. Retrieved June 28, 2009, from http://sites.google.com/site/ onlinelearningcircles/Home/learningcircles-defined
- Riel, M., & Polin, L (2004). Learning communities: Common ground and critical differences in designing technical support. In S. Barab, R. Kling, & J. Gray (Eds.), *Designing for virtual communities in the service of learning* (pp. 16-54). Cambridge, MA: Cambridge University Press.
- Salomon, G. (1993), Distributed cognitions: Psychological and educationalconsiderations. Cambridge, England: Cambridge University Press.
- Wenger, E. (1998). *Communities of practice*. Boston: Cambridge University Press.

Connect with the World of Distance Learning... Join USDLA Today!

800.275.5162 www.usdla.org information@usdla.org

UNITED STATES DISTANCE LEARNING ASSOCIATION 8 Winter Street, Suite 508 • Boston, MA • 02108 • USA

Converting an Undergraduate Nursing Course to Mostly Online

One Experience

Nova Ann Todd

INTRODUCTION

H igher education is moving more toward using distance delivery systems with every term. Faculty members are being expected to convert their courses to either completely online or at least partly online delivery. This transition places faculty and students under tremendous pressure to accomplish the same learning objectives by using many different strategies than were previously used.



Nova Ann Todd, Instructional Designer, Athens, GA. E-mail: novatodd@charter.net Current faculty have varying degrees of comfort with the technologies which are used to deliver education at a distance. Current students in nursing programs have for the most part experienced only or mostly face-to-face lectures. While most of today's higher education students have become comfortable interacting with supplemental online materials, they have not usually been totally dependent on distance education methods for content delivery.

As distance education delivery permeates higher education, faculty and students must become more skilled and comfortable with these methods in order to enable a successful educational experience.

Meeting different learning needs of students is a challenge that faculty face no matter what delivery system is used. The educational system relies on instructional resources that require reading. But the generation of students entering higher education now has grown up in a world oriented to visual information. They watch videos, television, and movies. They access videos on the web. Some even make their own videos and upload them to the web. This is clearly not the same type of student that existed when the current faculties were undergraduate students.

This article is aimed at describing the experiences of nursing faculty who were "challenged" to reduce the number of face-

to-face hours of class time and replace them with online course delivery for an undergraduate nursing course: Nursing Care of Women, Children, and Families.

REVIEW OF LITERATURE

Chickering and Erhmann (1996) specify seven principles of good practice for undergraduate education:

- 1. Encourage contact between students and faculty;
- 2. Develop reciprocity and cooperation among students;
- 3. Encourage active learning;
- 4. Give prompt feedback;
- 5. Emphasize time on task;
- 6. Communicate high expectations; and
- 7. Respect diverse talents and ways of learning.

These recommendations emphasize the importance of active learning. Students must interact with the content, apply it, and make it part of themselves in order to learn. The most effective instruction is that which gets the learner actively involved. Merely sitting and listening is less effective than engaging in some type of active learning exercise.

The nursing curriculum is densely packed with information that is new to the average student. One of the challenges of nursing faculty is to help learners master as much information as possible in a limited period of time. This includes new vocabulary, physiological processes, and nursing care.

Nursing students must master text information that must be read from textbooks and professional journals, and develop a deeper understanding of the process of nursing care. In order to assist the learner to achieve this level of mastery, learning research has found that presenting information in a dual mode is helpful (DiGiacinto 2007). Multimedia is ideally suited to delivering information using dual coding. Using visuals with synchronous narrative is the preferred delivery method for novice learners in order to minimize cognitive load. Mayer and Anderson (1992) found that students who watched animation as they heard narration did better when solving transfer problems than students who were exposed to these as separate experiences. DiGiacinto (2007) found that learners can perform more problem solving when the information is presented to them using narrative form accompanied by animation rather than text accompanied by animation.

Online video can also increase access to course resources. This is especially true for students who face challenges to attending class in person or those who want to relisten to lectures. A study of undergraduate nursing students in South Australia found that having access to video streamed lectures enhanced their learning. They watched the videos to review previously attended lectures, to prepare for exams, and view lectures that they had missed. They also watched the lectures to prepare for class and exams. They appreciated the ability to rewind back over areas of content that they needed to review to increase their understanding (Bennett & Glover, 2007).

Faculty who have converted nursing courses to online delivery and instruction have found that they had to devote a significant amount of time to learning to use the technology. Brown found that online instruction required about 40% to 50% more instructor effort when compared to traditional classroom delivery (Bennett & Glover, 2007). Learning the technology along with teaching the online course greatly increased the workload (Brown, 1998).

BACKGROUND

The faculty who teach the Nursing Care of Women, Children, and Families course at a major nursing school were instructed to convert their traditional face-to-face (web-enhanced) course to online delivery. This was a result of a state of the university address by the university president in 2008, in which he stated:

Deliver a highly integrated, technologyinfused curriculum that is reflective of and responsive to the evolving learning styles of our students. We must emphasize innovation in the delivery of curriculum with a focus on diverse learning styles and clinical competencies for the twenty-first century. [The college] working collaboratively across school and departmental lines—must continue to develop and deliver a nimble, technology-infused curriculum that is reflective of the needs of multigenerational learners—baby boomers, Gen Xers, and the Millenials. (Rahn, 2008)

This course is taught at two campuses, utilizing videoconferencing technology for cross-campus lectures. During the past several years, course materials such as the course calendar, syllabus, and assignment guidelines have been available on the course management system (CMS). Otherwise, instruction has been in the traditional face-to-face lecture. The content of the course has been delivered by face-to-face lecture and assigned readings in the textbook.

THE NEW COURSE

Due to the limited time for development and the predilection of the students to expect lecture delivery, it was decided to make audio lectures available to them from their CMS in the course web page. Most of the lectures were recorded using a combination of Audacity and PowerPoint. A few lectures were recorded using the software Tegrity.

The instructors recorded each Power-Point slide's lecture notes as a separate audio file using Audacity. Both the Power-Point file and all of the sound files were sent to the instructional technology (IT) department for processing. The IT staff used a software package called Articulate to "marry" these files together. Articulate converts the files to shockwave files. This process enabled them to upload the resulting product to the CMS course site, where the students could access and listen to the lectures at their convenience. Students loved the ability to select certain slides on the left side of the screen and listen to just those slides. This enabled them to replay these slides for review prior to exams (Figure 1).

As supportive documents, PowerPoint Notes in PDF form were also available for students to print and use if desired. The links to these were next to the links to the lectures (Figure 2).

Students could click on the links to lectures and print out the handouts to use as they listened to the audio lecture. The required readings were listed on each module as well. Links to the activities were listed at the bottom of each module (Figure 2).

Good instruction also includes strategies to get the learner active in the learning process (Chickering & Erhmann, 1996). This requires special techniques when teaching by distance. To increase the learner activity, several activities were developed for each of the learning modules. Examples of these are crossword puzzles, matching games, Jeopardy games, and concept maps. The faculty created some of these using free programs such as Hot Potatoes. Other games were created by faculty collaborating with the IT specialists.

Crossword puzzles help the students to learn the specialized lexicon of the nursing field. Matching games and games requiring that they place items in the appropriate "bucket" enable the students to test their understanding of processes (Figure 3).

To increase the visual appeal of the material, appropriate videos are linked to the learning modules. These videos were chosen to visually represent processes that are often difficult to grasp and have in the past been depicted using video. For example, several videos depicting animated

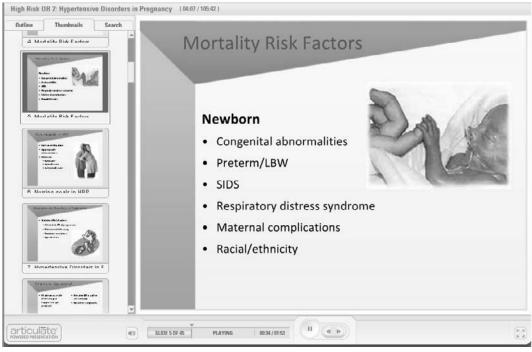


Figure 1.

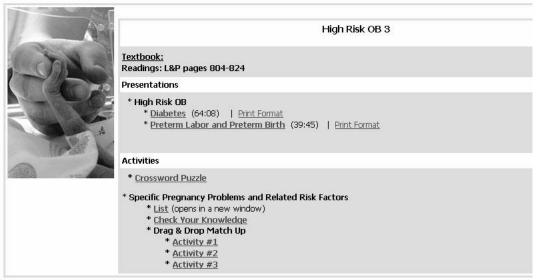


Figure 2.

childbirth are available from the module that covers labor and delivery (Figure 4). Good sources for these videos are Google Scholar or YouTube. The recorded lectures are enhanced with well-chosen graphics and previously created learning objects.

In the lecture on complications of pregnancy, a graphic depicting the HELLP

Stages of Labor Activity

Directions:

Which stage of labor do these take place? Drag the each item on the right to the appropriate box on the left.



Stage One	
	Episiotomy or lacerations
	Birth of baby until placenta is delivered
	UC: become longer, stronger, and closer
	Fully dilated cervix to birth of baby
	Complete cervical dilatation marks the end of this stage
	Increased bloody show
Stage Two	Mom becomes Irritable
	Includes Latent phase, active phase and transition phase
	Cord lengthening, gush of blood, uterine shape becomes more rounde
	Activation of Ferguson's Receptors
	Crowning
	Lasts from 5 to 20 minutes
Stage Three	Fetal descent begins
orage mice	Examine placenta for intactness
	Cervical effacement progresses to complete
	Ring of Fire
	Nausea & vomiting

Figure 3.

syndrome was created by one of the faculty. The HELLP syndrome is a specific rare condition that occurs during pregnancy. This graphic is included in the PowerPoint slide on which the HELLP syndrome is discussed. Also, an interactive game was created using this graphic (Figure 5).

Another game was created which enabled the students to test their understanding of the common congenital heart defects that are seen in pediatrics. A graphic of the defect is shown and the students select the correct name out of a list. Students receive feedback whether they chose the correct or incorrect option (Figure 6).

OUTCOME

Most students have had favorable reactions to these new resources. They state that the games were a welcome change of pace from just reading the textbook. The games also gave them a chance to test the degree to which they understood the material. Several students commented that this course site was the best-organized site that they have experienced in their program experience.



Figure 4.

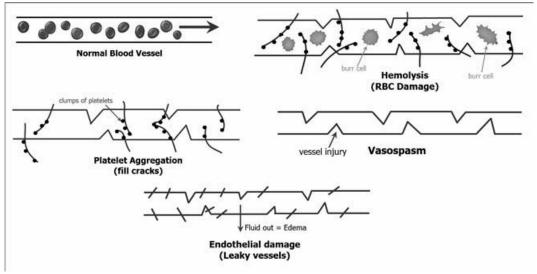


Figure 5.

CONCLUSIONS

Teaching in the online environment requires more time than traditional methods (Bennett & Glover, 2007), and a collaborative team to guide students through a successful experience. The faculty must preview all linked resources to make sure they are appropriate. For example, videos on sites like YouTube must be previewed to make sure they meet the educational

Name That Cardiac Defect

Question 1 of 9:

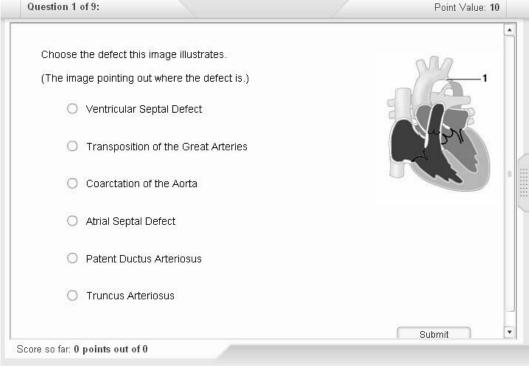


Figure 6.

objectives, don't contain objectionable content, and remain available for the course. Faculty must have access to IT specialists to help design and develop a visually appealing and easily navigable course site.

Ideas for interactive activities were inspired by experience in previous terms helping students learn challenging concepts and processes. For example, during test taking, students have demonstrated weaknesses in knowing the course vocabulary. This inspired the creation of the crosspuzzles. On previous exams, word students often had trouble answering questions on the HELLP Syndrome. This inspired the creation of the HELLP Syndrome activity. The graphic originally was drawn on paper and shown to the face-toface class using a document camera. This graphic was duplicated using computer software and converted to a learning object.

Making this conversion to mostly online delivery required many more hours of the faculty than the hours needed for face-toface delivery. One faculty member had never created a PowerPoint presentation. This faculty required a lot of instruction and support to learn how to use Power-Point and Audacity. The files for these lectures were too large to e-mail to the instructional designers and had to be divided into smaller files and compressed to be acceptable to the e-mail system.

Creating the activities was a collaborative effort between faculty and the instructional designers. Since more than one group was involved with getting these resources online, the process took a week or more to create and get uploaded on to the course website for each activity. For

this first offering of the redesigned course site, the goal was to get the module materials loaded in time for their scheduled appearance in the course calendar. For future offerings of this course, faculty will have time to fine-tune and increase the number of activities for the students.

The Internet is a dynamic environment, so course sites that rely on it for some of their content must be dynamic as well. Online resources such as Internet links must be rechecked periodically to make sure they still work and they are still there.

Designing activities and recording lecture may sound difficult, but this course design is well within the skills of most faculty members, and is worth the additional effort.

REFERENCES

Bennett, P. N., & Glover, P. (2007). Video streaming: Implementation and evaluation in an undergraduate nursing program. Nurse Education Today, 28, 253-258.

- Brown, B. M. (1998). Digital classrooms: some myths about developing new educational programs using the Internet. *T.H.E. Journal Online*, 26(5), 56-59.
- Chickering, A. W., & Erhmann, S. C. (1996). Implementing the seven principles: Technology as lever. *AAHE Bulletin*, 49(2), 3-6.
- DiGiacinto, D. (2007). Using multimedia effectively in the teaching-learning process. *Journal of Allied Health*, 36(3), 176-179.
- Mayer, R. E., & Anderson, R. B. (1992). The instructive animation: helping students build connections between words and pictures in multimedia learning. *Journal of Educational Psychology*, 84(4), 444-452.
- Morris, N., Buck-Rolland, C., & Gagné, M. (2002). From bricks to bytes: faculty and student perspectives of online graduate nursing courses. *Computers, Informatics, Nursing*, 20(3), 108-114.
- Rahn, D. W. (2008). Navigating our way to better health. Retrieved May 7, 2009, from Medical College of Georgia web site: http:// www.mcg.edu/admin/sou/2008/index.html

DIRECTOR, E-LEARNING

Provides leadership for the University's e-learning efforts, working collaboratively with academic units to identify programmatic opportunities for online degrees, certificates, and courses. Develops external collaborations for e-learning content and partnerships. Assumes accountability for the financial stability of the e-learning program. Directs the Center for E-Learning, which provides both faculty and student training, support, and resources for online academic offerings. Responsible for expanding high-quality e-learning efforts and increasing University enrollments. Seeks grant funding for e-learning projects. Supervises assigned personnel. Interacts professionally with all internal and external customers using strong interpersonal skills.



For full position description and to apply, please visit out website at: https://hrjobs.csuohio.edu

CSU is an AA/EOE institution committed to non-discrimination in employment and education. M/F/D/V encouraged.

Literacy Quest Using Blackboard Technology

Cherie Roberts, David E. Walker, and Regina A. Bobak

INTRODUCTION

S cavenger hunts began as traditional activities for fun at family reunions and birthday parties; everyone was provided with a list of objects to find or to acquire within a set limit of time. Progressive educators saw the hidden value in scavenger hunts and began giving students directions and clues to help them explore and, at the same time, enjoy the various aspects of educational inquiry.

Scavenger hunts are only as limited as one's imagination. Moorefield (2003) used a newspaper scavenger hunt as a method to entice her students to research current events for social studies. Feldman (2004) suggested using a newspaper scavenger hunt for teaching items such as grammar (verbs), math, and events of a scientific nature. Some educators adhere to the traditional mode of using a scavenger hunt by creating a "field trip" within their school grounds to conduct their 100th Day of School celebration (Clark, 2003). Fones (2000) designed a scavenger hunt that encouraged team building while searching the school grounds for science-related data. Other teachers have used scavenger hunts as a fun way to introduce students



Cherie Roberts, Department of Early Childhood and Elementary Education, Bloomsburg University of PA, 400 E. Second Street, Bloomsburg, PA 17815. Telephone: (570) 389-4955. E-mail: croberts@bloomu.edu



David E. Walker, Department of Early Childhood and Elementary Education, Bloomsburg University of PA, 400 E. Second Street, Bloomsburg, PA 17815. Telephone: (570) 389-4076. E-mail: dwalker@bloomu.edu

to different types of reference books such as the almanac (Miller, 2003).

Forward-thinking instructors soon meshed computer technology and the Internet with scavenger hunts. Many educators, such as Chalmers (2003), saw the need to teach students methods for locating Internet resources and found the game of scavenger hunt to be a non-threatening means of developing research skills. These new abilities were honed by a scavenger hunt that challenged students to investigate their local library as well as Internet search engines.

LITERACY QUEST MESHED WITH BLACKBOARD TECHNOLOGY

Combining a scavenger hunt with computer technology can be done at all learning levels—elementary through college. The Teaching of Reading in the Elementary School course is designed for junior and senior pre-service teachers. For this instruction, the decision was made that students needed a project in which they



Regina A. Bobak, Instructional Technology Specialist, Instructional Media and Design Center, Bloomsburg University of PA, 400 E. Second Street, Bloomsburg, PA 17815. Telephone: (570) 389-5319. E-mail: rbobak@bloomu.edu

would use their Internet research skills to find predetermined criteria that meshed with the course's content. Because the Internet sites and articles had already been selected by the professor, the scavenger hunt was more appropriately designated as a Literacy Quest. Project goals fit the following criteria: engage and introduce students to specific Internet material that could be used for creating reading unit lesson plans; expose learners to current research and quality children's literature; review relevant material in their textbooks; and provide them with opportunities for independent work. The most interesting facet of this Literacy Quest was the unique utilization of Blackboard (Bb) technology. The instructors wanted to control the release of each of the three sections of the Literacy Quest, as well as provide a place for the students to submit their material and take online guizzes related to the Literacy Quest.

The Literacy Quest was divided into three sections called tiers: One tier was a web search: a second tier consisted of a search within their textbook; and the final tier provided students with opportunities to search for a specifically assigned journal article. Tier One, the web search, required the students to visit three specific sites: www.readwriteandthink.com, www.proteacher.com, and www.ala.org. At the first two sites, the students had specific options for areas to search for lesson plan ideas and activities. Materials found at these sites were placed into a Word document and submitted as an assignment through Bb. Tier Two, the textbook search, was completed using an online Bb quiz. This tier's quiz contained questions related to information found in their textbook, as well as questions about award-winning children's literature found at the American Library Association (ALA) site. This inquiry was designed to expose students to the variety of awards given for children's literature. In Tier Three, the journal article, the students had a choice of searching for their assigned article through Bloomsburg University of Pennsylvania Library's online research site or actually visiting the library to find and read the hard copy of the article. The report on each student's selected article was then submitted via Bb's assignment link.

To reduce sharing of information from the first two tiers (Internet search and textbook quiz), a decision was made to use the adaptive releases available in Bb. To control the adaptive releases, each class (section) was randomly assigned into one of three groups named Group A, Group B, and Group C. Once in these groups, the adaptive releases could be used to control the order in which each group would receive the tiers. Once the students submitted their material for a given tier, they were locked out of that tier and were unable to return to change their submissions. In order to receive their next tier, the students were required to click the "Mark Review" tab. This function would release the next tier's directions and submission site. An additional control used was an overall time frame. Blackboard controls were set to release the entire project on a given day and time. The entire project was available to the students for one week. At the end of the week, the project's time-limit parameters made the entire project unavailable. During the week while the students had access to the project, no time limits were placed on any of the individual tiers or quizzes. The students were also able to save their material if they did not have everything prepared for submission. However, saving their material did not mean that it had been submitted for grading; likewise, saving their material also did not make them immune to the project's due date when the overall project's time limit expired.

BLACKBOARD ADAPTIVE RELEASE TECHNOLOGY

Figure 1 shows the use of Blackboard's adaptive release of content, a feature available in versions 7.0 and higher. Adaptive release rules contain criteria that can include availability, date and time, individual users and groups, scores or attempts on any Gradebook item, or review status of another item within the course. The most basic adaptive release involves placing one

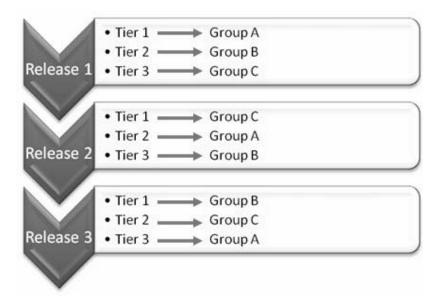


Figure 1. Adaptive release.

rule on a content item. The advanced adaptive release allows for multiple rules to be created on a content item. Each rule consists of criteria that define the visibility of the content item to the users.

To set up the adaptive release options for the Literacy Quest, a diagram was created to show the relationships of the tiers and groups before setting up the releases in Blackboard. This mode was to ensure accuracy of the releases during development. Figure 2 demonstrates each separate menu item that was created for the Literacy Quest within Blackboard. This design reduced the clicks needed by the students to gain access to the Literacy Quest directions. This also provided the option to make the link unavailable until development was completed. The Literacy Quest content area contained the directions as an item, and each tier had a folder with the appropriate directions and assignments within. Using folders minimized the number of releases needed. Figure 3 shows how each folder received adaptive release rules. The releases were based on dates/time, membership to a group, and mark review of the directions or a tier. As students completed the work, the Bb Gradebook updated. They were able to track their progress as they completed the Literacy Quest.

STUDENT SATISFACTION —SURVEY RESULTS

Once the students completed the Literacy Quest, they received a link to a survey within Bb. The survey results are from all four sections of the course Teaching of Reading in the Elementary School and were anonymous. The survey covered three main areas: locating articles and text-



Literacy Quest Main Directions

Item is no longer available. It was last available on Sep 27, 2008 11:55 PM. Enabled: Review Literacy Quest Directions Click on link for directions.



2 V Tier 1: Internet

Item is no longer available. It was last available on Sep 27, 2008 11:55 PM. Enabled: Adaptive Release, Review

This folder contains the directions and assignment submission for Tier 1.



3 Y Tier 2: Textbook (plus) Quiz

Item is no longer available. It was last available on Sep 27, 2008 11:55 PM. Enabled: Adaptive Release, Review This folder contains the directions and quiz for Tier 2.



4 🎽 <u>Tier 3: Online Educational Journal</u>

Item is no longer available. It was last available on Sep 27, 2008 11:55 PM. Enabled: Adaptive Release, Review This folder contains the directions and assignment submission for Tier 3.

Figure 2. Blackboard folder structure.

Rule Name	Criteria				
Group 1	Membership: 1 Groups AND Review Status: Directions				
OR Group 2	Membership: 1 Groups AND Review Status: Tier 3: Online Educational Journal				
CR Group 3	Membership: 1 Groups AND Review Status: Tier 3: Online Educational Journal				

Figure 3. Groupings.

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
I was able to locate my assigned article.	63	35	3	5	2
The article I read provided information that will help me as a future teacher.	66	36	5	1	0
I was able to access the quiz for the textbook questions.	90	18	0	0	0
I was able to locate the answers to the quiz questions in the textbook or from other sources.	53	50	2	2	0
I was able to access the web site links.	65	39	2	1	0

Table 1.Ability Survey

book information, web site selection, and Bb satisfaction.

Students were asked to rate their experiences locating assigned articles and textbook information. Table 1 identified a small number of students who required additional assistance, most notably being able to locate their assigned online article. For many of these undergraduates, this project provided their first experience in utilizing online access to research and reviewing journal articles. If they needed help finding their article, students were informed to contact their instructor to receive assistance via e-mail.

Student feedback related to web site selection is presented in Table 2. Using this information, a decision was made to modify the second year Literacy Quest by substituting www.fcrr.org for www.ala.org. This will be a more useful web site because of its relation to the Five Pillars of Reading. Future student surveys will determine if this assumption is true.

Student rating of Blackboard technology is located in Table 3. This information confirmed the ease of learning perceived by students in using Blackboard as the primary platform for a variety of academic experiences. Prior to expecting the students to engage in the Literacy Quest, directions were reviewed, and the functionality of each tier was modeled. The aspect of the "Mark Reviewed" button was introduced early in the course; students were required to read both the attendance and academic honesty policies and then activate the first My Education School link by clicking on the "Mark Reviewed" button. Most students did not need to use the Blackboard Help Desk. However, the few who tried to use this resource discovered busy signals or no response to their e-mail pleas.

	Excellent	Very Good	Good	Fair	Poor
Rate the web site: www.readwritethink.org.	43	50	20	4	0
	Yes	No	Uncertain		
Would you return to the web site: www.readwritethink.org?	94	1	11		
	Excellent	Very Good	Good	Fair	Poor
Rate the Web site: www.proteacher.com.	39	41	20	5	2
	Yes	No	Uncertain		
Would you return to the web site: www.proteacher.com?	94	3	10		
	Excellent	Very Good	Good	Fair	Poor
Rate the Web site: www.ala.org.	26	50	31	0	0
	Yes	No	Uncertain		
Would you return to the web site: www.ala.org?	73	3	31		

Table 2. Rating of the Sites

Somewhat Not Extremely Very Satisfied Satisfied Satisfied Satisfied Satisfied Rate your satisfaction with the 1 43 48 15 0 Blackboard item: Completing online quiz. 32 12 Rate your satisfaction with the 58 4 1 Blackboard item: Instant quiz score. 10 2 0 Rate your satisfaction with the 55 40 Blackboard item: Submitting an assignment. 27 Rate your satisfaction with the 60 16 3 0 Blackboard item: "Mark Reviewed" button that released each tier. Rate your satisfaction with the 56 29 17 2 3 Blackboard item: Directions posted in Blackboard. 0 2 Rate your satisfaction with the 29 16 45 Blackboard item: Blackboard Help Desk (if you used it).

Table 3. Satisfaction Ratings

CONCLUSION

Through the review of journal articles and exploration of teacher-education web sites, students were provided with current information about means and methods for teaching reading in the elementary schools. Along with these learning opportunities, they also developed timemanagement skills. This project provided many students with an introduction to

online journal retrieval and review of current supplementary materials. Fusing a game-like approach with twenty-first century technology within the collegiate classmotivated students room the and developed a new awareness of scholarly growth. Many pupils, in reflecting upon the various web sites' information, professed that they had "bookmarked" numerous offerings and plan to return to these online resources when they begin their student-teaching experiences. Ohler (2009) notes, "Teachers who are truly digitally fluent will blend creativity and innovation into lesson plans, assignments, and projects" (p. 13). The goal in sharing this project is to inspire more educators to facilitate their students in developing digital fluency using the Literacy Quest approach.

REFERENCES

- Chalmers, M. E. (2003). The scavenger hunt as an interactive teaching tool to develop research skills. *Interface*, *3*(6). Retrieved from http://bcis.pacificu.edu/journal/2003/06 /chalmers.php
- Clarke, J. (2003). Storybook 100 days. Instructor, 112(5), 52-55.
- Feldman, S. (2004). The real world. *Teaching PreK-8*, 34(7), 6.
- Fones, S. W. (2000). Engaging science. *Science Scope*, 23(6), 32-35.
- Miller, P. (2003, October 1). Build research skills with an almanac scavenger hunt. *Curriculum Review*, 43, 10.
- Moorefield, L. A. (2003, March). What's in a newspaper? *Teaching K-8, 33,* 58-59.
- Ohler, J. (2009). Orchestrating the media collage. *Educational Leadership*, 66(6), 8-13.

YOUR ADVERTISEMENT OR ANNOUNCEMENT COULD BE HERE

USDLA 8 Winter Street, Suite 508 Boston, MA 02108 800-275-5162

NOVA SOUTHEASTERN UNIVERSITY

Celebrating 30 Years of Excellence in Distance Education NSU's Fischler Graduate School of Education and Human Services offers 14 education degrees including associate's, master's, educational specialist, doctorates, certification, and recertification in more than 65 specializations to students throughout the world. Most are now available online or through a combination of live and online classes. Live classes in a number of specializations are offered at more than 60 sites throughout the United States and in other countries; online classes are available to students almost anywhere in the world.

Doctor of Education in Instructional Technology and Distance Education

Fischler Graduate School of Education and Human Services

Led by some of the nation's most progressive and knowledgeable faculty, NSU's Ed.D. in Instructional Technology and Distance Education develops leaders who can plan, organize, manage, and teach effectively using instructional technology in the classroom, on the job, and online through a variety of electronic delivery systems. Students progress through the three-year program in cohorts, engendering a dynamic camaraderie among cohort members as well as full-time and adjunct faculty.

For information, visit the ITDE Web site at www.fgse.nova.edu/itde or call 800-986-3223, Ext. 8500.

Visit our Web site at www.fgse.nova.edu



Fischler Graduate School of Education and Human Services

Nova Southeastern University admits students of any nae, color, and national or ethnic origin. ■ Nova Southeastern University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Destant, Georgia 3003-4007, Telephone number: 404-673-4501) to award associate's, bachelor's, master's, educational specialist, and doctoral degrees.

Multitasking During Chats

At the Intersection of Laundry and Mindful Learning

Constance E. Wanstreet and David S. Stein

INTRODUCTION

R enee could not put her life on hold when she joined her online chat group Tuesday evening. Her daughter, a cheerleader, needed a clean uniform the next day. Renee excused herself from the discussion to put the uniform in the washer, noting that it was conveniently located near her computer. As an online learner, Renee is up to three times more likely than face-to-face learners to engage in multiple tasks (Kenyon, 2008). However, what might be the consequences in terms of learning performance of multitasking during inquiry-based text chats? This study presents a conceptual framework that considers multitasking during online course chats through the lens of mindful and mindless learning to give a more complete picture of the learners' experiences during a chat.

MULTIPLE-TASK PERFORMANCE AND MINDFUL LEARNING

The literature pertaining to multiple-task performance is rich (Baron, 2008; Kenyon, 2008), and mindful learning has been stud-



Constance E. Wanstreet, Adjunct Assistant Professor, Workforce Development and Education, College of Education and Human Ecology, The Ohio State University, 2200 Olentangy River Road, Columbus, OH 43210. Telephone: (614) 688-8242. E-mail: wanstreet.2@osu.edu



David S. Stein, Associate Professor, Workforce Development and Education, College of Education and Human Ecology, The Ohio State University, A486 PAES Building, 305 W. 17th Ave., Columbus, OH 43210. Telephone: (614) 292-0988. E-mail: stein.1@osu.edu

ied for some time (King & Sawyer, 1998; Langer, 1997). This study extends the literature with an exploration into the learning performance of group members involved in mindful and mindless multitasking during inquiry-based chats.

Joe sent a BRB (be right back) message to his online study group, signaling his intent to multitask during their chat about adult education in America. No one objected, perhaps because they were also involved in multiple activities. This may be because the secondary activity may not require a high degree of cognitive attention (Kenyon, 2008), because of a perception that there is not enough time in the day to accomplish pertinent tasks (Southerton, 2003), or simply because the technology enables multitasking (Baron, 2008).

Discussion that leads to shared meaning is an expectation in many online courses. Stein et al. (2007) suggest that individual meaning can be transformed to shared understanding during chats through questioning and collective exploration as a group. An assumption is that group members who are otherwise engaged are not actively involved in collective exploration and not fully sharing their perspectives. Conscientiously exploring all points of view and integrating them into a group response requires mindful learning rather automatic, mindless than responses (Langer, 1997). How then can we account for multitasking as part of the learning experience in a chat?

Communication involves simultaneously executing multiple tasks (King & Sawyer, 1998). For example, typing answers into a chat while thinking of a response is multitasking. When two tasks require common perceptual or motor resources, doing both at the same time will degrade performance for one or both tasks (Salvucci & Taatgen, 2008). Composing an e-mail message while contributing to a chat discussion would result in poor performance for either or both tasks because both require mindful attention. However, when the tasks use distinct perceptual or motor resources, dual-task performance can be equivalent to single-task performance (Salvucci & Taatgen, 2008).

METHOD AND PROCEDURES

Two research questions were posed: (1) What might be the consequences in terms of learning performance of multitasking during inquiry-based chats? (2) What are the implications of multitasking for instructors designing mindful learning experiences?

We searched three general databases representing the educational and social sciences literature. Databases included Academic Search Complete, Education Full Text, and PsycINFO. Descriptors used were *multiple-task performance, mindful learning,* and *mindless learning*. We also included classic texts, such as Langer's *Power of Mindful Learning*. The search was conducted in November 2008.

CONCEPTUAL FRAMEWORK

Being mindful in a community of inquiry synchronous chat room entails the application of cognitive energy to engage with the thoughts of others, to be open to new information, to challenge one's assumptions, and to concentrate on the differences in viewpoints expressed by others. These qualities address the idea of being attentive (Langer, 1997).

Given that synchronous, text-based chats are not spontaneous encounters because of the delay inherent in formulating, typing, and submitting responses, and given that text-based chats leave a written record of prior statements enabling discussants to catch up with the conversation, it is possible to multitask and still be attentive. However, Wickens (1991) has suggested that multitasking can impede, facilitate, or not interfere with performance on a primary task. Multitasking is a timesharing of mental and or motor tasks using the available cognitive energy of an individual. Energy is allocated on the basis of a desired level of performance on tasks assigned and the cognitive load of each task. In a text-based chat room, being mindful might require a high level of cognitive energy to produce a unique and critical response to the comments of other learners and to formulate a group response to the issue discussed.

Wickens (1991) describes three cognitive processing issues: (1) multitasking can compete for the same levels of cognitive resources, leading to degradation in the primary task; (2) multitasking can lead to confusion when the task elements are similar; or (3) multitasking might not interfere with performance on different tasks when the elements are incompatible with each other. Table 1 presents a conceptual frame for projecting individual learning performance during multitasking.

The key feature of being able to multitask seems to be the way in which cognitive energy is allocated. If tasks are incompatible or share common information processing, performance may not degrade. However, if the task elements compete for the same cognitive energy, then performance may decline. For example, responding to e-mail while responding to chat dialogue requires mindful effort for both activities and uses the same cognitive resources. High attention levels on both tasks might decrease, and individual learning performance may be poor, as suggested in Table 1, when two activities require mindful attention. Listening to background music (a secondary, mindless task) while reading and responding to textbased chat messages (a primary, mindful task) may not decrease attention to the main task, which should result in good individual learning performance. The table also suggests that approaching any task mindlessly will result in a poor learning performance. Being attentive and being mindful may be related to the type of multitasking performed and the level of cognitive energy required for each task.

Table 1 projects learning performance outcomes for individuals while they are chatting. However, in a chat group, learning performance has two dimensions: individual and group. If group members approach their primary chat activity in a mindful way and conduct any secondary activities mindlessly, the group as a whole should experience a good learning outcome. Nevertheless, there may be times when individuals engage in other activities in support of the group, such as consulting the text for examples to support a position or clarifying a term on the Internet. Their individual performance as a chat participant will decline temporarily, but their activity will improve the learning performance for the group as a whole.

Learners may move in and out of mindful and mindless activities during the course of their chat sessions. As their attention levels vary, so will their individual learning performance, and ultimately the performance of the group.

SUPPORT FOR THE CONCEPTUAL FRAMEWORK

Interviews with groups of learners in a course about adult education in America

Table 1. Projected Individual Learning Performance During Multitasking

support the conceptual frame. The course uses learner-moderated chats to encourage self-direction and provide learners with experience facilitating dialogue, summarizing the discussion, and teaching one another. Many of the learners balance class, family, and work obligations through multitasking. In terms of the performance matrix in Table 1, following are the learning outcomes they perceived.

Mindful Attention to Primary Task; Mindful Attention to Secondary Task

Ray was distracted by a telephone call during his chat, which was his primary activity. He "lost track of the chat quickly." In his case, both activities required mindful effort and led to "an ineffectual contribution" on his part.

MINDFUL ATTENTION TO PRIMARY TASK; MINDLESS ATTENTION TO SECONDARY TASK

While Anna chats as her primary task, she snacks on crackers or plays with her dog as a secondary task. The chat requires cognitive resources and a mindful learning effort, while the secondary activities use motor resources and are employed mindlessly. Anna's perception was that multitasking had no affect on the quality of her individual learning.

MINDLESS ATTENTION TO PRIMARY TASK; MINDFUL ATTENTION TO SECONDARY TASK

Jason's chat group needed clarification on a definition. He announced that he was leaving the chat to look up the unfamiliar term on an Internet site. In his case, the primary learning task shifted for the benefit of the group from the chat discussion to the online dictionary. Jason rejoined the chat with an answer so the group could move forward. In the same way, Mary checked her text to clarify information related to the chat. During that time, she perceived a temporary decline in her performance as a discussant but made a contribution that ultimately increased the performance of the group.

INSTRUCTIONAL STRATEGIES THAT Address Chat Multitasking

The findings suggest that multitasking need not detract from the process of developing shared meaning during a chat provided the primary learning task is performed in a mindful way and the secondary task is performed mindlessly. Instructional strategies to promote mindful learning are summarized below.

STRATEGY 1: HAVE A CLEARLY DEFINED OUTCOME

Stein et al. (2007) suggest that chats that have a clearly defined goal and follow a community of inquiry process (Garrison, Anderson, & Archer, 2000) help build shared understanding, which is an outcome of mindful learning. When learners understand the expected outcomes of textbased chats, such as a posting to the larger class, they are inclined to attend to chats in a mindful way.

STRATEGY 2: HAVE A ROLE FOR EVERY LEARNER

By adopting roles, each group member has a stake in the chat process as well as in the product. Each role requires mindful effort. For example, the moderator facilitates dialogue, engages members in the discussion, ensures equality of voices, calls for a summary, and checks for understanding. The summarizer discerns areas of agreement and integrates comments. The summarizer should state concisely where the group stands on the particular issue under discussion before the moderator moves on to the next topic. The role player can represent alternate viewpoints (Collison, Elbaum, Haavind, & Tinker, 2000). Learners should change roles each week because performing an unfamiliar task will increase mindfulness (Langer, 1997).

STRATEGY 3: HAVE A GROUP SIZE THAT PROMOTES ENGAGEMENT

Brookfield and Preskill (1999) recommend that groups be composed of four or five members when the goal is to discuss issues from reading assignments. In this way, the presence or absence of a group member's voice is readily noted.

STRATEGY 4: HAVE GROUPS ESTABLISH NORMS OF CONDUCT

Stein et al. (2007) found that groups that established norms mitigated against disjointed thoughts and inconsiderate treatment of one another. Group members may want to recognize that not all of them will be 100% mindful at all times during a chat. They may establish a norm of letting the group know what they are doing that will divert their attention from the discussion, as Renee did with her laundry and as Jason did when he looked up a definition online.

STRATEGY 5: ENCOURAGE SOCIAL PRESENCE THAT BUILDS COHESION

Social presence (i.e., using humor, compliments, referring to others by name) helps create a climate for open communication and builds group cohesion, which supports learning (Garrison & Arbaugh, 2007). Open communication allows group members to clear the air of anything that may affect a productive chat and the functioning of the group (Hunter, Bailey, & Taylor, 1995a). Checking with members about what may be preventing them from contributing can help the group get refocused and move toward deep meaning (Hunter, Bailey, & Taylor, 1995b).

CHATS AND MINDFUL LEARNING

As college instructors, we have found chats to be useful in generating social and community-building responses and for providing a space to have a shared learning experience (Hrastinski, 2006; Stein et al., 2007; Stein & Wanstreet, 2008). Students may feel less distant from other learners and more confident in their class performance through text-based chats (Hrastinski, 2006). However, this presupposes that the learners are actively present during most of the chat so that mindful learning can occur. Instructors who share insights into how mindful and mindless activities can influence performance can help learners prioritize their activities during textbased chats so that attention levels are balanced in a way that best promotes learning performance.

REFERENCES

- Baron, N. S. (2008). Always on: Language in an online and mobile world. New York: Oxford University Press.
- Brookfield, S. D., & Preskill, S. (1999). Discussion as a way of teaching: Tools and techniques for democratic classrooms. San Francisco: Jossey-Bass.
- Collison, G., Elbaum, B., Haavind, S., & Tinker, R. (2000). *Facilitating online learning: Effective strategies for moderators*. Madison, WI: Atwood.
- Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3), 87-105.
- Garrison, D. R., & Arbaugh, J. B. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *The Internet and Higher Education*, 10, 157-172.
- Hrastinski, S. (2006). The relationship between adopting a synchronous medium and participation in online group work: An explorative study. *Interactive Learning Environments*, 14(2), 137-152.

- Hunter, D., Bailey, A., & Taylor, B. (1995a). *The art of facilitation: How to create group synergy.* Tucson, AZ: Fisher Books.
- Hunter, D., Bailey, A., & Taylor, B. (1995b). *The Zen of group: A handbook for people meeting with a purpose.* Tucson, AZ: Fisher Books.
- Kenyon, S. (2008). Internet use and time use: The importance of multitasking. *Time & Society*, *17*(2-3), 283-318.
- King, P. E., & Sawyer, C. R. (1998). Mindfulness, mindlessness, and communication instruction. *Communication Education*, 47(4), 326-336.
- Langer, E. J. (1997). *The power of mindful learning*. New York: Addison-Wesley.
- Salvucci, D. D., & Taatgen, N. A. (2008). Threaded cognition: An integrated theory of concurrent multitasking. *Psychological Review*, 115(1), 101-130.

- Southerton, D. (2003). "Squeezing time": Allocating practices, coordinating networks and scheduling society. *Time & Society*, 12(1), 5-25.
- Stein, D. S., & Wanstreet, C. E. (2008). Chats and shared understanding: How instructors can help learners use academic chat rooms. *Distance Learning*, 5(1), 49-54.
- Stein, D. S., Wanstreet, C. E., Glazer, H. R., Engle, C. L., Harris, R. A., Johnston, S. M., et al. (2007). Creating shared understanding through chats in a community of inquiry. *The Internet and Higher Education*, 10(2), 103-115.
- Wickens, C. D. (1991). Processing resources and attention. In D. L. Damos (Ed.), *Multiple-task performance* (pp. 3-34). Washington, DC: Taylor & Francis.

Happy students.

Your own online bookstore. A new revenue stream. No more textbook headaches.

When you want it all, turn to Specialty Books.

As your partner, we'll develop an online virtual bookstore based on your booklist and schedule and provide comprehensive textbook and course materials ordering, inventory, and shipping services *—all at no cost.* Plus, we pay you a commission on every order!

With 24/7 online ordering, guaranteed stocking levels, easy returns, online buybacks, and a 99.9% delivery accuracy rate, we'll keep your students smiling.

Specialty Books

Your Online Bookstore Partner

Make the right choice!

Only Specialty Books offers a comprehensive course materials fulfilment program, plus flexible, personalized adoption and management services.

Get our "Online Bookstore Partner Checklist" to compare for yourself.

Order online at: www.specialty-books.com Or call 800.446.1365 x224

Specialty Books° A subsidiary of Nebraska Book Company

B Nebraska

Open Education Students' Perspectives of Distance Teaching of The Principles of Ataturk and the History of Revolution

Kadir Ulusoy

INTRODUCTION

Distance education (DE) is a kind education providing educational opportunities in some areas for people who are not able to participate in face-to-face education. The main characteristic of DE is that learners and instruc-



Kadir Ulusoy, Assistant Professor, Adıyaman University Faculty of Education, Adıyaman, Turkey. Email: ulusoykadir@gmail.com

tors are in different places. Because of this characteristic of DE, education can be provided at any place, time and date. Therefore, the popularity of distance education programs has been increasing recently. Instructional activities can be held at predetermined times via technological tools and devices, even though instructors and students are in separate places. Besides this main characteristic, some other important characteristics of DE have been mentioned by Verduin and Clark (1994, in Agaoglu-Imer, & Kurubacak, 2002) as follows:

- Special media devices are used to connect learners and teachers and to communicate the course content.
- Special data procession and communication devices are benefited to provide two-way communication between the learners and the teachers.
- An effective educational management is established for student assessment (p. 45).

According to Kaye (1981), there are three main factors influencing the emergence of student communities attending DE activities. The first one is the demand for higher education that cannot be covered by traditional higher education institutions. In order to cover this demand, distance education approaches have been adopted in many countries. The second factor is the demand for an educated work force in some important fields. This kind of demand can only be covered in effective and cost effective ways by distance education. The third factor is the potential of distance education institutions for providing education to the people who, for a variety of reasons, did not have educational opportunities in the past.

According to Ruzgar (2004), some of the benefits of distance-learning systems used by institutions and corporations are:

- Cost effectiveness of distance education; distance education enables companies and corporations to train more people, more often, and with reduced travel costs. In addition, when distance education systems are already in place, adding new students may not increase cost at all.
- Effectiveness and productivity of distance education; through live and interactive programs/courses with multiple sites interconnected for group learning, learners can be given current knowledge and skills while they stay at their worksite.
- Quality through distance education; by using distance education technologies, access to remote experts around the country and indeed around the world can be made possible, bringing information from the original resources into the classroom. Connecting many students from different sites with instructors/ experts allows the exchange of perspectives on the subjects so that new ways of looking at problems, productivity, motivation, etc. can be achieved (p. 22).

Technological infrastructure has been discussed by some researchers as the heart of the quality of distance education. For example, Ozkul (2001) emphasized the importance of the infrastructure by stating that a high-quality infrastructure of telecommunication and information technology is needed for a powerful distance education system.

As Yazici, Altas, and Demiray (2001) mentioned, different technologies for distance education have been expanding increasingly in order to make distance education a practical option for many higher education institutions. They also stated that via printed materials, television, and current interactive technologies, distance education provides a communication between student and instructor. According to Bates (1998), as an instructional tool, television has potential to give positive motivation by drawing the students' attention. It allows instructors to reach a large mass of students simultaneously. The most unique feature of television is its capability to deliver information to the students, which is not quite possible with other devices.

According to Liu (2002), recent innovations in hardware and software technology all around the world have had positive effects on the development of distance education technology. Instructional television (ITV), web-based instruction (WBI), and web-enhanced instruction are some examples of up-to-date technologies used in distance education. Sherry (1996) also gave examples of popular distance education technologies: email, bulletin board, web pages, teleconferencing, and videoconferencing.

ABOUT THE PRINCIPLES OF ATATURK AND THE HISTORY OF REVOLUTION COURSE

Subjects in The Principles of Ataturk and the History of Revolution course exist in social science, Turkish, and life science courses under the units about Kemalism in elementary Grades 1-7. These subjects are included in the course named History of Republic of Turkey and Kemalism in Grade 8 in elementary school and Grade 3 in high school. The course The Principles of Ataturk and the History of Revolution are given two semesters in the first grade of all the programs in universities. There exist interaction and communication between students and the instructor in the course "the principles of Ataturk and the history of revolution" taking place in face-to-face classrooms. This is a very important point, since students may have opportunities to ask questions of the instructor immediately. In addition, these students have chances to see, read, and evaluate various course materials. Therefore, it can be said that these students are luckier than are students in the Open Education Faculty.

Aims of the history of revolution should be taught to students both in distance education and in face-to-face education. According to Safran (2006, p. 103) these aims are:

- Introducing the principles of Ataturk to new generations,
- Making new generations to adopt the principles of Ataturk,
- Adapting the principles of Ataturk according to new conditions,
- Comparing the revolutions of Ataturk with modern revolutions,
- Providing power to fight against all harmful ideologies,
- Growing new generations who will form social justice,
- Providing national consciousness and conceit, and
- Informing youngsters about national history.

While Emiroglu (2006, p. 98) stated, "it can be seen that the course of History of Republic of Turkey and Kemalism and other history courses are formed around two central purposes no matter the grades in which these courses are given. These purposes are historical consciousness and citizenship consciousness," Safran (2004, p. 112) said, "with the course of the principles of Ataturk and the history of revolution, it is aimed to make youngster[s] develop positive attitudes towards the fundamental philosophy of Turkish revolution, republic regime and the principles and revolutions of Ataturk."

PURPOSE OF THE STUDY

The main purpose of this study is to investigate and determine the perspectives of Open Education Faculty students' about teaching and learning the The Principles of Ataturk and the History of Revolution course at distance. Specifically, present study was conducted to identify types of materials students used while following the distance education course and to identify strategies and skills students developed during distance education.

Method

The population of the study was all Open Education Faculty students residing in Adiyaman. The sample of this study consisted of 124 student volunteers who were enrolled in various distance education programs offered by Open Education Faculty.

A survey was given to the participants in order to identify the students' perspectives. Survey was consisted of 22 Likerttype items, two items for obtaining demographic data such as age and gender, and five open ended items. Likert-type items had three categories (*agree, partly agree,* and *disagree*). Items in the survey were prepared after reviewing existing literature and distance education documents. Items were reviewed by experts. SPSS 11.0 was used for organizing the data, which were presented in frequencies. In addition, percentages were also provided by using descriptive statistics.

FINDINGS

Of all the participated students, 61.3% were male and 38.7% were female.

As indicated in Table 2, 45.2% of the participants were between the ages of 26–30. When considering that 19.4% of the participants were between ages of 20-25, it can be obviously said that 64.6% of all the participants were at the age of 30 or below.

As indicated in Table 3, most of the students (71%) said that they were interested in the history course.

As indicated in Table 4, 45.2% of the participants stated that they attended the Open Education Faculty for making a career and 38.7% of participants attended for obtaining promotion in their professional career.

Students were asked, "during the preparation for final examinations at what rank do you put the preparation to final exam of the course 'The Principles of Ataturk and the History of Revolution' in terms of importance?" Their responses were: first rank, 8 (6.4%); second rank, 11 (8.9%); third rank, 48 (38.8%); fourth rank, 36 (29%); fifth rank, 13 (10.5%); sixth rank, 4 (3.2%); seventh rank, 4 (3.2%).

During the distance education process, Open Education Faculty students stated that they mostly use printed materials (104) and other materials (75) rather than using audio (37) and video (26) materials in the course of The Principles of Ataturk and the History of Revolution.

It can be seen in Table 5 that students participating in this study mostly used the web site of Anadolu University's Open Education Faculty, followed by web sites of Sakarya University and Selcuk University. Twelve students did not mark any of the given web sites.

As indicated in Table 6, a majority of students agreed with the statement "During distance education I learned the subjects in the course of 'The Principles of Ataturk and the History of Revolution' easier"; the rate of the students who disagree with this statement is 41.9%, while 58.1%. Similarly, students agreed with the statement "During distance education I learned the subjects in the course of "the principles of Ataturk and the history of revolution" by following television programs." In addition, 58.1% of the participants disagreed with the statement "During distance education I learned the subjects in the course

	iubic ii Studeiii	Genuer
	Frequency	%
Male	76	61.3
Female	48	38.7
Total	124	100.0

Table 1. Stu	ident Gender
--------------	--------------

Table 2. Student Age

	Frequency	%
20-25	24	19.4
26-30	56	45.2
31-35	8	6.5
36-40	20	16.1
41 and over	16	12.9
Total	124	100.0

Table 3. Interest in the History Course

	Frequency	%
Yes	88	71.0
No	36	29.0
Total	124	100.0

Table 4. Reason for Attendingthe Open Education Faculty

	Frequency	%
To make a career	56	45.2
To obtain a promotion	48	38.7
Due to the family pressure	12	9.7
To postpone military service	8	6.5
Total	124	100.0

Mark the web sites that you used to receive distance education (You can mark more than one web site)	Frequency
Middle East Technical University Institute of Informatics: http://www.ii.metu.edu.tr/emkodtu/ and http://ion.ii.metu.edu.tr/	1
Beykent University "Distance Teaching Technologies Research and Application Centre": http://www.beykent.edu.tr/	1
Sakarya University-Internet Supported Teaching: http://www.ido.sakarya.edu.tr/	13
Selcuk University Distance Education Program: http://www.selcuk.edu.tr/suzep/	8
Istanbul Technical University-UZEM: http://sariyer.cc.itu.edu.tr/~uzem/	1
Anadolu University Open Education Faculty: http://aof.anadolu.edu.tr/	108
Ministry of National Education World Links Project (World Links for Development Program): http://www.meb.gov.tr/PROJELER/worldlinks/worldlinks.htm	2

Table 5. Student's Use of Education Web Sites

of 'The Principles of Ataturk and the History of Revolution" from web sites related to distance education." Of all the students, 61.3% disagreed with the statement "During distance education I learned the subjects in the course of 'The principles of Ataturk and the History of Revolution' at private tutoring centre easier," and 81.4% of the participants stated that they learned the subjects in the course of 'The Principles of Ataturk and the History of Revolution" by following textbooks during distance education." It is seen that students learned the subjects in this course mostly from textbooks, 61.3% of the students stated that since they were well motivated in the course, they had no problems in learning the subjects in this course no matter what materials they used, and 58 % of the students stated that questions in the course exam are based on memorization. In response to the statement "During distance education I learned the subjects in the course of 'The Principles of Ataturk and the History of Revolution' by memorizing," most of the students stated that they did not learn the subject in the course by memorizing.

Similarly, most of the students agree with the statement "In the text books prepared for distance education, questions related to 'The Principles of Ataturk and the History of revolution" are very similar to each other," and 64.5% of the students stated that they would like publishers to prepare CDs including subjects and questions related to the course for exam preparation. In addition, 83.9 % of the students would like the course to include more current subjects during distance education, while 41.9% of the students indicated that the course exams did not measure student knowledge properly, and 35.5% of the students also partly agreed with this statement. More than two-thirds-67.7%-of the students would like to ask questions about the course to instructors who created the questions, and 64.5% of the students believed that they would be more successful if they have taken the course in face-to-face education. While 45.2% of the students stated that they have put more effort into the The Principles of Ataturk and the History of Revolution course, as compared to other courses, 41.9% stated that they did not put more effort into the course.

	Agree		Partly Agree		Disagr	ee
	Frequency	%	Frequency	%	Frequency	%
During distance education I learned the subjects in the course of "The Principles of Ataturk and the History of Revolution" easier.	48	38.7	24	19.4	52	41.9
During distance education I learned the subjects in the course of "The Principles of Ataturk and the History of Revolution" by following television programs.	28	22.6	24	19.4	72	58.1
During distance education I learned the subjects in the course of "The Principles of Ataturk and the History of Revolution" from web sites related to distance education.	28	22.6	24	19.4	72	58.1
During distance education I learned the subjects in the course of "The Principles of Ataturk and the History of Revolution" at private tutoring centre easier.	20	16.1	28	22.6	76	61.3
During distance education I learned the subjects in the course of "The Principles of Ataturk and the History of Revolution" by following text books.	101	81.4	15	12.1	8	6.5
I had difficulties in learning the subjects in the course of "The Principles of Ataturk and the History of Revolution" no matter what materials I used since lack of motivation.	20	16.1	28	22.6	76	61.3
Questions in the exam of "The Principles of Ataturk and the History of Revolution" are based on memorization.	72	58.1	20	16.1	32	25.8
During distance education I learned the subjects in the course of "The Principles of Ataturk and the History of Revolution" by memorizing.	40	32.3	40	32.3	44	35.5
In the text books prepared for distance education, questions related to "The Principles of Ataturk and the History of Revolution" are very similar to each other.	36	29.0	48	38.7	40	32.3
I would like publishers to prepare CDs including subjects and questions related to "The Principles of Ataturk and the History of Revolution" for exam preparation.	80	64.5	36	29.0	8	6.5
During distance education I would like the course of "The Principles of Ataturk and the History of Revolution" included more current subjects.	104	83.9	12	9.7	8	6.5
I believe that exams of "The Principles of Ataturk and the History of Revolution" course do not measure student knowledge properly.	52	41.9	44	35.5	28	22.6
During distance education I would like to ask questions about the course of "The Principles of Ataturk and the History of Revolution" to instructors.	84	67.7	12	9.7	28	22.6
I would be more successful if I have taken the course "The Principles of Ataturk and the History of Revolution" in face to-face education.	- 80	64.5	20	16.1	24	19.4
I have put more effort on "The Principles of Ataturk and the History of Revolution" course comparing to other courses.	56	45.2	16	12.9	52	41.9
I reached the materials about "The Principles of Ataturk and the History of Revolution" course easily.	48	38.7	40	32.3	36	29.0

Table 6. Student's Opinions of the Course"The Principals of Ataturk and the History of Revolution"

(Table continues on next page)

	Agree		Partly Agree		Disagree	
	Frequency	%	Frequency	%	Frequency	%
I saw that the content of the course "The Principles of Ataturk and the History of Revolution" was not different from the subjects that I learned in secondary and high schools.	32	25.8	60	48.4	32	25.8
I cannot follow the course "The Principles of Ataturk and the History of Revolution" since I have difficulties in using Internet.	36	29.0	20	16.1	68	54.8
I developed self study skills since I have taken the course "The Principles of Ataturk and the History of Revolution" as distance education.	48	38.7	40	32.3	36	29.0
Taking the course "The Principles of Ataturk and the History of Revolution" at distance made me use information and communication tools faster.	56	45.2	44	35.5	24	19.4
Taking the course "The Principles of Ataturk and the History of Revolution" at distance made me develop my research skills.	36	29.0	44	35.5	44	35.5
The course "The Principles of Ataturk and the History of Revolution" increased my general knowledge.	68	54.8	44	35.5	12	9.7

Table 6. (Continued)

It is seen that while 38.7% of the students reached the materials about the course easily, 29% had difficulties reaching the materials. While 48.4% of the participants stated that they partly agree with the statement "I saw that the content of the course 'The Principles of Ataturk and the History of Revolution' was not different from the subjects that I learned in secondary and high schools," 25.8% of the students said that they agree with the statement and 25.8% of the students said that they disagree with the same statement.

More than half—54.8%—of the students stated that they disagree with the statement "I cannot follow the course 'The Principles of Ataturk and the History of Revolution' since I have difficulties in using Internet." However, 29% of the students stated that they cannot follow the course since they have difficulties using the Internet. While 38.7% of the students stated that they developed self study skills since they have taken the course via dis-

tance education, 32.3% of the students stated that they partly developed the self study skills. While 45.2% of the students stated that they agree with the statement "Taking the course 'The Principles of Ataturk and the History of Revolution" at a distance made me use information and communication tools faster," 35.5% partly agree with this statement. While 35.5% of the students stated that taking the course at distance did not make them develop their research skills, 35.5% of the students stated that they partly develop their research skills, and 29% stated that taking the course at distance made them develop their research skills. While 54.8% of the students stated that the course increased their general knowledge, 35.5% of the students stated that the course only partly increased their general knowledge.

This result indicated that the course 'The Principles of Ataturk and the History of Revolution" is playing important role on development of students' general knowledge.

DISCUSSION AND CONCLUSIONS

In Kaye's study (1981), in early 1980s most students participating in distance education were between ages of 20 and 40. However, in this study, it was found that the 64.6 % of the participants were between ages of 20 and 30.

Further, the study indicated that most of the participants (83.9%) were participating in distance education programs for career purposes. Thus it can be said that these students were well motivated as they continue in their programs of study by using the opportunity to take education.

In this study, it was found that most of the students used textbooks as the only material. Although distance education, as mentioned by United States Distance Learning Association (United States Distance Learning Association, 2009), is delivered by means of various tools such as the Internet, television broadcast, and audio and video materials, most of the participants in this study did not use these resources. Saglam (1999) found that using audio and video materials provide students effective studying strategies.

Students participated in this study stated that they would like to ask questions of the instructors about the subjects and they also stated that they would be more successful if they could have taken this course via face-to-face education. As it can be seen here, in distance education, since there is no interaction between students and the instructors all the time, immediate feedback cannot be received. As Ispir (2003) stated, there is no opportunity for students to facilitate the lesson in distance education. For this reason, if the technologies used in distance education encourage interaction, students will receive feedback much quicker.

According to the results of this study, students stated that they generally;

• Could not learn The Principles of Ataturk and the History of Revolution during distance education easily;

- Put more effort into The Principles of Ataturk and the History of Revolution than other courses;
- Did not have difficulties to learn the subjects in The Principles of Ataturk and the History of Revolution no matter what resources they used;
- Thought that questions in the exam of The Principles of Ataturk and the History of Revolution needed memorization;
- Would like to see CDs including subjects and questions related to The Principles of Ataturk and the History of Revolution for exam preparation;
- Would like the course The Principles of Ataturk and the History of Revolution to include more current subjects during distance education;
- Would like to ask questions about the course of The Principles of Ataturk and the History of Revolution of the instructors who created the questions; and
- Believed that taking the course The Principles of Ataturk and the History of Revolution at distance made them use information and communication tools faster.

In addition, students participated in this study believed that they developed self study skills since they have taken the course, and taking the course at distance make them develop their research skills.

Students believed that the course exams did not measure their knowledge properly. One of the interesting findings of this study is that a relatively important portion of the participants stated that they followed the websites related to distance learning. According to student responses, the course was seen as one of the firststudied courses during the exam period.

IMPLICATIONS

Implications of the study include:

- The curriculum of The Principles of Ataturk and the History of Revolution prepared for students in the Open Education Faculty should be expanded by including more current subjects.
- Web-based instruction should be more widespread and students should be informed about these technologies.
- CDs including subjects and questions related to The Principles of Ataturk and the History of Revolution and other courses for exam preparation should be created and distributed with textbooks if possible.
- Questions should be prepared as not requiring memorization of concepts and forcing students to make comments and use reasoning skills.
- Instead of a kind of history course in which students can pass the exams by memorizing, the history course that takes an effective role on growing individuals who adapt national and universal consciousness and values can produce democratic and peaceful solutions can be more effective and permanent.
- If interaction between student and instructor is not provided, learning levels of students are affected negatively. However, using the internet effectively may provide positive interaction between student and the instructor.

REFERENCES

- Agaoglu, E., Imer, G., & Kurubacak, G. (2002). A case study of organizing distance education: Anadolu University. *Turkish Online Journal of Distance Education-TOJDE*, 3(1), 45-51.
- Bates, A. W. (1998). Television, learning and distance education. *Journal of Educational Television*, 14(3), 213-225.
- Emiroglu, G. (2006). İlköğretim Düzeyinde İnkılap Tarihi Ders Konularının Öğretimi: Metot ve Etkinlikler [Teaching of the subjects' for History of Revolution Course at primary school level: Method and activities] (pp. 97-119). Türk Eğitim Sisteminde Atatürkçülük ve

Cumhuriyet Tarihi Öğretimi. H.Ü.A.İ.İ.T. Enstitüsü. Editor Yasemin Doğaner. Ankara, Turkey: Hacettepe Üniversitesi Yayınları

- Ispir, B. (2003). Uzaktan Eğitimde Öğrenme-Öğretme Sürecinin Dijital Televizyon Yayıncılığı ile Desteklenmesi, "Açıköğretim Fakültesi İngilizce Öğretmenliği Lisans Programı İçin Model Önerisi [Supporting digital broadcasting of learning-teaching process in distance education: A model suggestion for open education faculty English teacher degree training associate program]. Yayımlanmamış Yüksek Lisans Tezi [unpublihed MA thesis], Anadolu Üniversitesi Sosyal Bilimler Enstitüsü, Eskisehir, Turkey.
- Kaye, A. (1981). Students and courses. In A. Kaye & G. Rumble, *Distance Teaching for higher and adult education* (pp. 32-47). London: Croom Helm.
- Liu, Y. (2002). Distance and traditional education teaching the same course via instructional television and traditional educational formats: A case study. *Turkish Online Journal of Distance Education*, 3(1), 5-13.
- Ozkul, A. E. (2001). Anadolu University distance education system from emergence to 21st century. *Turkish Online Journal of Distance Education*, 2(1), 17-31.
- Ruzgar, N. S. (2004). Distance education in Turkey. *Turkish Online Journal of Distance Education*, 5(2), 22-32.
- Safran, M. (2004). "Eğitim Bilimi Açısından Atatürk İlkeleri ve İnkılap Tarihi Ogretimi: Atatürk İlkeleri ve İnkılâp Tarihi'nde Yontem Arayisları [Teaching of History of Revolution course from point of education science: Looking for the method at the principles of Ataturk and the history of revolution]. Hacettepe Üniversitesi, Atatürk İlkeleri ve İnkılâp Tarihi Enstitüsü Yayını, Ankara.
- Safran, M. (2006). İnkılâp Tarihi Öğretimine Yaklaşım Sorunları [Approaching problems for history of revolution teaching]. Tarih Eğitimi, Makale ve Bildiriler, Ankara: Gazi Kitapevi.
- Sağlam, M. (1999). Uzaktan Eğitim Yoluyla Öğrenim Gören Sınıf Öğretmenlerinin Etkili Ders Çalışma ve Öğrenme Stratejilerini Uygulama Düzeyleri [Effective lesson working and application levels for learning strategies of class teachers who are educating via distance education]. Anadolu Üniversitesi Eğitim Fakültesi Dergisi, 9(1/2), 7-35.

- Sherry, L. (1996). Issues in distance learning, International Journal of Educational Telecommunications, 1(4), 337-365.
- UNESCO. (1987). *Distance learning systems and structures: Training manual* (Vol. 2). Bangkok: UNESCO Regional Office for Education in Asia and the Pacific.
- United States Distance Learning Association. (2009). *Definition of distance learning*. Retrieved February 7, 2009, from http:// www.usdla.org
- Yazıcı, A., Atlas, İ., & Demiray, U. (2001). Distance education on the Net: A model for developing countries, *Turkish Online Journal* of Distance Education-TOJDE, 2(2), 24-35.

"(THE) PRESENT STUDY WAS CONDUCTED TO IDENTIFY TYPES OF MATERIALS STUDENTS USED WHILE FOLLOWING THE DISTANCE EDUCATION COURSE AND TO IDENTIFY STRATEGIES AND SKILLS STUDENTS DEVELOPED DURING DISTANCE EDUCATION."

School Guidance Counselors

Are They Distance Education's Biggest Ally?

Sonya R. Durden

Reguidance counselors really misguided when it comes to distance learning? I ask this because during an online course discussion forum, a former distance learning instructor posted an interesting comment surrounding the issue of guidance counselors and their role in the distance learning process. This instructor stated that guidance counselors are "misguided" in their attempts to recommend at-risk students for distance learning courses. The implication being that the probability of completion is low for this demographic. As a guidance counselor



Sonya R. Durden, Doctoral Student, Nova Southeastern University, 9145 NW 24th Avenue, Miami, FL. 33147. Telephone: (305) 467-2006. E-mail: sdurden@nova.edu

I was surprised to learn that there are still individuals who are not open to the idea of equal access for all students, but it did start me thinking about the counselor's role in the whole distance learning process.

There is a common misperception that equates at-risk learners to higher failure rates when the truth of the matter is, not all at-risk learners have the same characteristics. There are many elements that predispose students to the risk of dropping out of school. Some elements are based solely on academic achievement while others are environmental. However, this article will consider only students from low socioeconomic and single parent households when discussing at-risk students.

The number of students taking distance learning courses is on the rise. Those numbers have increased across ethnic, educational, and socioeconomic lines. While the numbers reveal a slightly higher growth rate for students enrolled in recovery courses, there appears to be an overlap for the at-risk student population. Why? How? Could this be the result of school guidance counselors recommending distance learning as a viable recovery option? Are students finally beginning to realize that, for many, a combination of distance learning and traditional face-to-face courses might be the right instructional mix to fit their learning styles? Well, it certainly does appear to be this way and it might be why distance education institutions are rapidly expanding. Susan Patrick, the director of the

U.S. Department of Education's office of educational technology, stated that she was expecting a "huge growth" in the availability of online and distance learning. "We expect the growth to continue, consistent with the growth in higher education distance learning," she added (Honawar, 2005).

THE DIGITAL DIVIDE

Distance education institutions are rapidly becoming more effective at accommodating a larger volume of learners with a variety of learning styles, but is every student being included? Is the digital divide preventing certain learners from not fully realizing this rapidly growing trend in education? Quoting Nielson (2006), "The 'digital divide' refers to the fact that certain parts of the population have substantially better opportunities to benefit from the new technology than other parts of the population" (para 2). Research conducted by The Center for Children and Technology (2001) found what educators and community leaders alike have long suspected, that technology use for low income communities tends to be unequal. The research indicates that while all ethnic groups have experienced significant increases in technology ownership, gaps between Whites and minorities still exist today, thereby affecting the rates at which minority students are enrolling in distance learning courses. As this problem becomes more evident, many school counselors are asking themselves "what can be done to ensure that more at-risk and minority students are included in the distance learning process"?

THE ROLE OF THE GUIDANCE COUNSELOR

School guidance counselors are a vital part of helping children develop into wellrounded individuals. Counselors provide valuable information to students in regards to academics (elementary, middle, high school and pre-college preparation), classroom schedules and life choices (job information, dropout prevention, and drug abuse issues). To answer the question of how to include at-risk students, as well as more traditional students in the distance learning process, one needs to look no farther than the state of Florida. Starting in the 2009-2010 school year these students will be able to earn a diploma from their local public schools entirely online. A new state law requires all school districts within the state create their own full-time virtual schools, collaborate with other districts, or contract with providers approved by the state. This is encouraging news for the distance education community. The new law sends a clear message that distance learning is no longer a trend; it is an effective and credible way for all students to learn. Given that distance learning courses will be offered for students from kindergarten through 12th grade, counselors will need to be diligent in stressing the importance of students utilizing the numerous community resources (i.e. libraries, community computer labs, before- and after-hour school computer labs).

MANY STUDENTS ARE NOT FAMILIAR WITH FLORIDA VIRTUAL SCHOOL

As a result of high stakes testing, students from at-risk schools have experienced higher rates of retention than those from other schools. One way that guidance counselors have been able to combat this growing epidemic is through offering distance learning as practical alternative for grade recovery. However it hasn't been easy because Florida Virtual School (FLVS) has done a poor job with marketing their product. FLVS has heavily relied on word of mouth as its advertising method. Word of mouth is an inexpensive advertising method, but is if effective? Yes and no. Yes because the school is allowed to grow at a slow steady pace, but no because it allows outside entities to interfere with that growth rate.

FLVS was established in 1997 to offer educational alternatives to students within

the state. That was over a decade ago, so why are some local school officials failing to inform parents and their children about this distance learning option? The answer might be a bit more complicated than one thinks. While I have no reliable data, the answer appears to be twofold. The first part of the answer is competition. Due extensive budget cuts throughout the state and the growth within the charter and private school sector, schools are having a difficult time retaining students. Local school administrators are concerned with the impact of how offering alternative routes to education will affect their overall student count, thereby their funding. Simply put, no students equals no funding.

The second and more complicated answer is the success rate of distance learning students. Since FLVS is a state operated school, grades earned are transferred to the student's local school district. If a student fails a course taken through FLVS, that grade will be placed on that student's permanent record. Failed courses not only affect grade point averages, they have the potential to interfere with graduation rates, which is a valid concern for school administrators. To combat large scale failures, it is imperative that local school guidance counselors closely monitor students taking distance learning courses. Research conducted by the National Education Association (2008) suggests the greatest difficulty distance education students will encounter is time management and student workload. Since Oblender (2002) and other researchers have had similar findings, guidance counselors, with the assistance of parents, will need to be diligent in monitoring these components when overseeing the progress of online learners, especially learners at risk of dropping out.

DISTANCE LEARNING GOING MAINSTREAM

Whatever the reasons for school officials not fully embracing and informing their consumers about FLVS, the 2002 Florida School Code adopted by the Florida Legislature provides parents and students with numerous statutory rights for educational choice. The Florida Department of Education (n.d.) lists these guidelines as:

- Section 1002.20(6), F.S., regarding K12 student and parent rights includes the Florida Virtual School as an option for parental choice.
- Section 1002.37(3)(c), F.S., clearly states that districts may not limit student access to courses offered by the Florida Virtual School.
- Section 1001.42(15)(a), F.S., includes as a duty of the district school board the requirement to adopt procedures to inform the general public of the educational programs, needs, and objectives of public education, including the educational opportunities available through the Florida Virtual School.
- Section 1001.42(21), F.S., lists as a duty of the district school board, to provide students with access to enroll in courses available through the Florida Virtual School and to award credit for successful completion. It also stipulates that access shall be available to students during or after the school day and during summer school enrollment.
- Section 1003.02(1)(i), F.S., requires school boards to notify parents at the beginning of the school year about acceleration mechanisms, including the opportunity and benefits of Florida Virtual School courses.
- Section 1003.03(3)(b), F.S., relating to maximum class size requirements provides, as an implementation option, the adoption of policies to encourage students to take courses from the Florida Virtual School.
- Section 1000.04(4), F.S., designates the Florida Virtual School as a component of the delivery of public education within Florida's K-20 education system.

• Section 1007.27(1), E.S., states that it is the intent of the legislature that a variety of articulated acceleration mechanisms be available to public secondary and postsecondary students and lists the Florida Virtual School as one of those acceleration options.

THE MONITORING PROCESS

Guidance counselors are essential to the success a student can have in a distance learning program. Some ways in which counselors can assist students would be to provide them with the most current information regarding the distance learning program, assist with the registration process, communicate with the distance instructor and require weekly or biweekly counseling sessions via small group discussions or individual interactions. During these sessions, counselors should require students to log into their accounts to verify firsthand that course objectives are being met. It is expected that this act would encourage students to stay on track. However, if the counselor finds that a student is in danger of failing, this would allow the counselor ample time to encourage that student to drop the class.

WHICH GUIDANCE COUNSELOR, VIRTUAL OR SCHOOL SITE?

Why am I stressing the utilization of the student's home school counselor over the virtual school counselor? Because the student-to-counselor ratio is higher within the distance learning school than in traditional school settings. While the Miami-Dade school district has one to four counselors per school, in the state of Florida, FLVS has three internal guidance counselors who support students, teachers, and parents. While there is no doubt that FLVS counselors are effective at their jobs, there has been a small number of complaints that they are not productive in informing parents of their role in the distance learning process. In 2005-2006, on an FLVS' annual survey, 13% of the parents said their child's guidance counseling services were not helpful because they were not aware of all the services guidance counselors provided. The parents had no idea that counselors had the ability to report their child's progress and monitor the results. To exacerbate matters, FLVS counselors are available to answer general questions on Tuesday at 11 A.M. or every 1st, 2nd, and 4th Thursday 7 P.M. (FLVS, 2008).

A COUNSELOR'S PERSPECTIVE

How I help students recover courses using Miami-Dade Virtual School and FLVS:

It all started 4 years ago when a student stepped into my office and stated that he was retained 3 times at his former school. The student wanted to know what could be done to ensure that he was placed in his proper grade. In the past I would recommend course recovery and monitor the student's progress using daily progress reports forms. Unfortunately, due to extensive budget cuts and curriculum reductions, recommending recovery courses was no longer a viable option, so I began taking a closer look at FLVS.

The first couple of students I referred to FLVS failed miserably and had to withdraw before the 28-day grace period ended. I take some responsibility for the failures because I was ineffective in the monitoring process. However, I was concerned that the counselors at FLVS made no attempt to contact the school site about the poor performance of its students. Not one courtesy phone call, email, or letter was attempted. I suppose I should not have been surprised, since this was pretty much how they marketed their product. Nevertheless I forged ahead, attempting several monitoring concepts. At this point I was willing to do anything I could to help my students become successful online learners.

After about a year of recommending students to FLVS, I decided to learn as much as

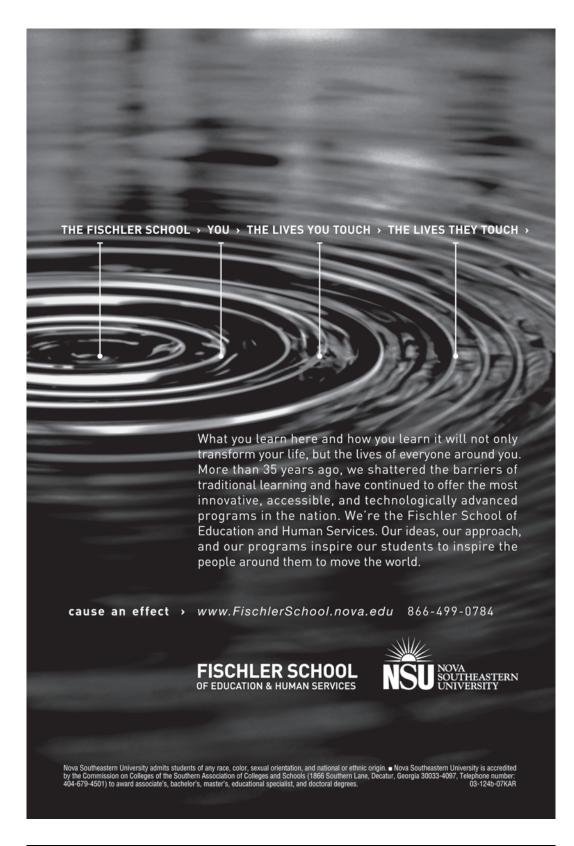
possible about FLVS and appointed myself the FLVS liaison at my site. As part of my recommendation protocol, I began to closely scrutinize the types of student recommended for the program. Approximately a year later, I began to looking at all incoming students' grades, test scores, and characteristics to see if they would be a good candidate for distance learning. Months later I included a school-based needs assessment as for students interested in FLVS as part of my promotion package. Once students were enrolled in FLVS, I would call them down to my office to inquire about their courses. As a part of these individualized counseling sessions I would have the students log into their account so that we could fully discuss their progress. If the student needed assistance I would ask a colleague to set up tutoring sessions, but if the student was too far behind I would have a parent conference and recommend that the student drop the course before the end of the 28-day grace period. What I began to notice was my strategies would almost guarantee successful outcomes. My most interesting finding was that the students preferred utilizing their home school counselor over the distance learning counselor due to trust issues. At the end of the day, the students simply were not comfortable with nor did they trust these counselors they'd never seen.

CONCLUSION

Distance learning has been around in one form or another for many decades, but over the past decade the computer and Internet have catapulted distance learning to the forefront of the educational arena. With more distance learning opportunities available each day, school guidance counselors need to be more visible and vocal with students interested in this educational choice. As educational stakeholders, guidance counselors must ensure that students utilizing the distance learning alternative are meeting their stated goals through counseling sessions and observations. Since many states are now making distance learning opportunities available for all learners, guidance counselors will need to be diligent in ensuring an individualized academic plan is in place and being followed. Finding the right fit in academics can be a challenge, but having access to a distance learning model significantly diminishes that challenge. As members of the educational community, many school guidance counselors have taken up the formidable challenge of ensuring students are familiar with every educational option available and this is being done with no additional compensation.

REFERENCES

- Florida Department of Education. (n.d.). Statutes relating to Florida Virtual School as a school choice option. Retrieved December 11, 2008, from http://www.floridaschoolchoice.org/ Information/virtual schools/Statutes.asp
- Florida Virtual School. (2008). *The hub: Student Advisement Center*. Retrieved December 11, 2008, from http://www.flvs.net/students/ advisement/
- Hanowar, V. (2005). Education department tracks growth in distance learning. Retrieved December 13, 2008, from http://www.trainerslink .com/content/view/445/57/
- National Association of State Boards of Education. (2008). Any place, any path, any pace: Taking the lead on e-learning policy. Retrieved October 30, 2006, from http://www.nasbe .org/Organization
- Nielson, J. (2006). *Digital divide: The three stages*. Retrieved December 11, 2008, from http:// www.useit.com/alertbox/digital-divide.html
- Oblender, T. (2002). A hybrid course model: One solution to the high online drop-out rate. *Learning and Leading with Technology*, 29(6), 42-46.
- The North American Council for Online Learning. (2008). Final report: *A comprehensive assessment of Florida Virtual School*. Retrieved December 13, 2008, from www.nacol.org/ docs/FLVS_Final_Final_Report(10-15-07).pdf



From the Classroom Learning Community to a Web-Enabled Community of Practice

Under the guidance and direction of an involved facilitator, a classroom learning community is able to transform into a viable community of practice empowered by the intrinsic social networking capabilities of Web-enabled applications. This evolutionary step is made possible by an engaged mentor or group-nominated peer who has a continuing concern and interest about the direc-



James M. Greer, Senior Analyst, Courseware Developer, and Instructor, L3COM, Air Operations Center Formal Training Unit, Hurlburt Field, Florida. Telephone: 850-217-9347. E-mail: jgreer01@gmail.com

James M. Greer

tion of a particular practice or profession. Within both traditional and distance education classrooms Web-enabled applications and technologies have greatly assisted in the facilitation of these communities. Garrison, Anderson, and Archer (2003) stated, "This new transactional era of distance education has been largely shaped by the ability of computer mediated communication (CMC) to create a community of learners at a distance" (p.114). To clarify this progression it is important to define a community of learning, define a community of practice, discuss the sources of a community of practice, list Web-enabled applications that may be used in communities of practice, recognize the characteristics of a community of practice, and discuss the importance of facilitation.

DEFINITIONS

One definition of a learning community proposed by the organization Tele Apprentissage Communautaire au Transformatit (1998) notes that it is "a group of students and at least one educator who, for a while and motivated by common vision and will, are engaged in the pursuit of acquiring knowledge, abilities and attitudes" (para. 1). This community of learning may exist in both traditional and distance venues with interaction varying from almost nil to very involved, depending upon the design and structure of the course. In describing a well designed online community of learning Tu (2004) noted, "Teammates communicating with each other, learning together, searching for resources, supporting each other, conducting team projects online, and solving reallife problems have become important activities in the learning process" (p. 4).

Communities of practice are defined by Wenger (2002) as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise by interacting on an ongoing basis" (p. 225). For example, the community of practice may be able to provide peer techniques, tactics, procedures, or solutions for a given problem. Tu (2004) found that, "Communities of practice (CoPs) are groups of people who share similar goals, interests, and practices and, in doing so, employ common practices, work with the same tools, and express themselves in a common language" (p. 17).

A classroom community of learning appears to have a single-minded goal which is the search or quest for knowledge. A community of practice may be viewed as sharing similar goals, but those goals may differ between members, and those goals may be achieved outside the context of a traditional or virtual classroom environment.

Source of a Community of Practice

A community of practice may have its origin in the traditional or virtual classroom. In the classroom environment students socially interact with each other within a community of learning for a substantial period of time over the course of a semester or even longer. Abels (2005) noted, "The classroom, in a sense, is the workplace for many of the students, and as Bennis and Slater (1969) point out, the workplace becomes a temporary society" (p. 145). After graduation, this workplace ethic and mindset is transported into the actual working environment. The close relationship between current activity theory and a community of practice is noted by Polin (2004).

Building on seminal work by the Russian psychologist Vygotsky (1978), current activity theory is one model that describes learning as the consequence of interaction with people, objects, and culture, in goal-oriented, organized, collective effort (Engestrom, 1999). The "community of practice" concept is a closely related model that describes learning as a consequence of organized, goaldirected, social activity (Lave & Wenger, 1991). For both models, in a healthy system, the individual learns through a process of enculturation into a slowly but constantly evolving practice. (p. 18)

There is a perceptible change that occurs as a learning community transitions from a classroom environment to the workplace where a community of practice has the opportunity to thrive in a transformed type of learning environment. In a traditional classroom setting, students and their associated community of learning are geographically co-located. When students become geographically separated upon graduation the opportunity to participate in a larger community of practice becomes possible. Drawing a parallel to the non-traditional virtual classroom, students and their associated online community of learning are virtually colocated. When students become virtually separated upon graduation, the opportunity to participate in a larger community of practice also becomes possible.

Included in this realm of resistance are traditional institutions, professors, teachers, and instructors that are satisfied with the results of staying with the eighteenth century chalkboard and teacher-centered methodologies. They may not be aware of the possibilities of using technologies for the purposes of a community of learning or of practice, but once the free-flow exchange of ideas begin to take place, the outcomes could possibly sway some longstanding negative opinions.

Educators working in corporate, health, military, or other career organizations should be cognizant of the exact point at which an opportunity reveals itself to facilitate a learning community into a community of practice. This opportunity takes advantage of newfound incentives within the community of practice for the individual. Addressing the motivation for more uninhibited participant involvement within a community of practice versus a more restrictive classroom community of learning, Kreijns, Kirschner, and Jochems (2003) stated, "This is because nontask contexts are usually characterized by informal and casual conversations often initiated by impromptu encounters which deal with a broad range of (task and nontask) subjects allowing serendipitous opportunities for getting acquainted" (p. 344). Now that students are away from the pressure of a classroom environment course graduates may now become part of the less threatening nontask environment. It is incumbent upon educators to exploit and facilitate these opportunities to establish communities of practice in order to advance a practice or profession.

ENABLING TECHNOLOGIES FOR COMMUNITIES OF PRACTICE

Communities of practice that evolve from a traditional or virtual classroom may be supported by web-enabled technologies and applications to facilitate engaging and robust communities of practice. A community of practice may be organized and divided into structured areas of concern using selected online applications that are effective in their use. They may be updated frequently utilizing e-mail lists, wikis, discussion threads, webinars, web portals or conference calls in preparation for possible face-to-face meetings or conferences. A model for using these online technologies and applications in preparation for an annual conference is utilized by organizations such as the United States Distance Learning Association (USDLA) or the Association for Educational Communications and Technology (AECT).

Due to the increased availability and accessibility of web-enabled applications, it has become easier and more economical to initiate informal learning among groups who may not necessarily be members of well-established professions. The World Wide Web makes it easier for like-minded individuals to form a new community of practice that originates from a classroom learning environment. Potential communities are waiting to be established in not only in the education, corporate, military, or health fields, but also in vocational and technical fields of practice. These individuals seek to share and build upon practical workplace knowledge within their community by providing such items as a library of lessons-learned, advice, or mentorship that may enhance their community of practice as a whole. Kiekel and Cooke (2005) note the impact of web-enabled applications.

In particular, computer-mediated communication and decision-making applications for teams are extremely varied and ubiquitous, ranging from e-mail to shared bulletin boards for classrooms to remote conferencing. As the potential to put these applications onto the Web becomes better exploited, computer-mediated communication and coordination of teams of individuals will become even more widespread. (p. 100)

As an example, the National Weather Service's Cooperative Program for Operational Meteorology, Education and Training (COMET) discovered enabling technologies during development of a training program that greatly assisted in

establishing a community of practice for Operations Officers (SOOs) Science (Johnson, 2000). After in-residence training, the SOOs are geographically separated to hundreds of different locations. To enhance communications between the SOOs, an online Training Resource Center (TRC) was developed, containing training materials and other useful information. In describing the TRC, Johnson (2000) noted, "Finally, we also believe that the TRC can foster a greater sense of community in which the SOOs share ideas and the more experienced members mentor newer members" (p. 24). A Web-enabled application called the forum page proved useful in maintaining the community of practice for SOOs. Johnson (2000) described, "The Forum page is intended as a place for holding discussions that we feel are key to building a community of practice among the SOOs" (p. 24). As displayed in the COMET example, trainers were able to recognize an opportunity to establish a community of practice for what originally started in a traditional classroom community of learning. After graduation, the graduates were included in a web-enabled, facilitated community of practice that holds multiple discussion threads on various topics (Johnson, 2000).

Web portals are also useful for the facilitation of a community of practice, as Golbeck, Alford, Alford, and Hendler (2005) note: "portals in the traditional sense are domain-specific pages that do not necessarily have a search feature. The goal is to provide users with a centralized place to find links, newsgroups, and resources on a topic" (p. 177). While web portals are used by many different professions, the Department of Defense (DOD) hosts communities of practice for its diverse service components. The limited access portals are the Army Knowledge Online, Defense Knowledge Online, Defense Online Portal, MarineNet Portal, Navy Enterprise Portal, and the Air Force Portal.

The Air Force Portal is accessed through the "Air Force Knowledge Now' website. It is restricted to personnel who have access to the .mil domain and a coded access card verified by a card reader. "The Air Force Knowledge Now communities of practice are the official collaboration tool of the Air Force" (AF Portal, n.d.). There are several options regarding joining an Air Force community of practice. An individual may browse through the categories to determine which practice to join. Once a decision is made by a person on which community of practice to join, he or she may join an open community that may require a second user login. A person desiring membership may be required to fill out an application to determine whether or not membership to that community is beneficial to all parties. Membership criteria are determined by the hosting community of practice (AF Portal, n.d.).

CHARACTERISTICS OF A COMMUNITY OF PRACTICE

The individual comes into a community of practice through what could be conceptually considered as two membership phases. The first membership phase is as part of the classroom learning community, where self-survival and self concerns may take precedence over group concerns in order to graduate from a course with a passing grade. A transition is made during the second membership phase, which involves joining the more diverse community of practice as Mayes (2002) noted, "The individual now becomes defined more by a group or community and their motivation to learn is now derived from the need to carry out the activities of the group. Almost by definition, they are given a reason to learn" (p. 169). The member now has the characteristic of being defined by the group. The second membership phase community of practice supersedes the first membership phase classroom community of learning.

Trying to coerce an individual to join a community of practice against their will may not necessarily work. Snyder, Wenger, and De Sousa Briggs (2003) stated, "A crucial characteristic of a community of practice is voluntary participation, because without this a member is less likely to seek or share knowledge; build trust and reciprocity with others; or apply the community's knowledge in practice" (p. 20). Simply assigning a person to a community of practice does not necessarily mean that a successful learning relationship will be automatically achieved. Invoking a volunteer and sharing type of attitude among members of the group would be an important goal of the facilitators, mentors, and group members themselves.

In setting up or designing a community of practice, one of the desired characteristics is to have an effective and engaging group of members who collaborate with each other by participating in an ongoing communications process. A community of practice design that is considerate in achieving this characteristic is noted by Snyder et al. (2003):

A community's effectiveness depends on the strength of its three core structural dimensions: its domain, community, and practice. "Domain" refers to its focal issues and the sense of members' identity with the topic. "Community" includes its member relationships and the nature of their interactions—levels of trust, belonging, and reciprocity. "Practice" consists of a repertoire of tools, methods, and skills—as well as members' learning and innovation activities. (p. 17)

Understanding Snyder's et al. (2003) mechanism assists in establishing the critical elements of the domain, community, or practice. Once identified for a given community of practice those elements are readily identifiable with associated key characteristics. These key characteristics could then be addressed in the event any of the dimensions might be deficient.

Another characteristic of a community of practice is the individual's collaborative relationship with other members of the community. Mayes (2002) reiterates Snyder's et al. (2003) recognition of the community member's important relationship with the group. "With the concept of a community of practice comes an emphasis on the individual's relationship with a group of people rather than the relationship of an activity itself to the wider practice, even though it is the practice itself that identifies the community" (Mayes, 2002, p. 169). Although the practice itself is the main concern of the individual within the community of practice, Mayes (2002) made clear that the individual is still more closely attuned to the relationships within the group rather than with the main activity.

Not only must the individual become cognizant of operating within a group community model, but in doing so will also progress to the next level of learning and knowledge building. As Gonczi (2004) stated,

Learners must develop generic capabilities and dispositions (including the capacity for ongoing learning as the nature of their professional practice evolves and expands) that will enable them to deal with a range of complex situations, and to do so in ways congruent with a set of moral principles. These capabilities are best developed through the knowledge building undertaken during work in a community of practice. (p. 33)

The community of practice is a vehicle by which an individual may continue the lifelong journey of learning. Wisher (2004) noted, "Also, communities of practice naturally arise at the workplace and within one's profession, both sources of lifelong learning" (p. 188). It could be said that members within a community of practice are most likely to be lifelong learners.

FACILITATION OF A COMMUNITY OF PRACTICE

A critical component in achieving an ongoing, successful, and viable community of practice is a dedicated facilitator or set of facilitators. As stated before, it could be a mentor or group-nominated peer who may be the most capable principal to guide this community of practice and inquiry. In discussing communities of practice that utilize the online environment, Gunawardena (2004) stated, "It is the ability to facilitate critical communities of inquiry that I think is the single most important contribution of this medium to distance learning" (p. 145).

A facilitator should be proactive in attempts to communicate with community of practice members. Items to address by the facilitator could be the latest updates regarding current events or issues, possible webinars, and the maintenance of an accurate e-mail roster list of active members. In turn, the facilitator may use the community of practice as a resource for its members to assist in conducting research. The facilitator could assist in establishing experimental and control groups, provide samples of convenience, presenting surveys, and establishing formative and summative committees in the pursuit of furthering the activities of the community of practice. The facilitator should constantly steer the group towards professional journals, articles by fellow members, most recent guidance, and noted trends from recognized experts in the field or profession.

A successful community of practice must be designed to serve the precise needs of its cohort members by implementing suitable facilitation in order to keep the dialogue and exchange of information and ideas flowing in a learning environment.

CONCLUSION

To clarify the progression from a community of learning into a community of practice it is important to define a community of learning, define a community of practice, discuss the sources of a community of practice, list Web-enabled applications that may be used in communities of practice, recognize the characteristics of a community of practice, and discuss the importance of facilitation. In establishing the learning process within a community of practice Gunawardena (2004) stated, "Lave (1991) considers learning not as a process of socially shared cognition that results in the end in the internalization of knowledge by individuals, but as a process of becoming a member of a sustained community of practice" (p. 145). The desired end result is to provide an accommodating framework and set of conditions to promote learning. Ruopp (1993) noted, "A supportive community of practice can help to sustain the slow, stepwise process of 'shifting' that eventually leads to a fundamental transformation in teaching philosophy and practice" (p. 143). A community of practice can be identified through its origin in the community of learning that exists in both the traditional or nontraditional classroom. Educators and mentors are a critical link in this facilitation process through recognition of potential communities of practice that are ready take the next step forward in the learning process. A need for proper and adequate facilitation is necessary to maintain a viable Web-enabled community of practice through working, learning, and innovating.

REFERENCES

- Air Force Portal (n.d.). *Frequently asked questions; Communities of practice FAQs.* Retrieved December 1, 2008, from https://www.my.af .mil/afp/netstorage/faq/cop.html
- Abels, P. (Ed.). (2005). Distance education in social work: Planning, teaching, and learning. New York: Springer.

- Anderson, T. (2003). Modes of interaction in distance education: Recent developments and research questions. In M. G. Moore & W. G. Anderson (Eds.), *Handbook of distance education* (pp. 129-144). Mahwah, NJ: Erlbaum.
- Garrison, D. R., Anderson, T., & Archer, W. (2003). A theory of critical inquiry in online distance education. In M. G. Moore & W. G. Anderson (Eds.), *Handbook of distance education* (pp. 113-125). Mahwah, NJ: Erlbaum.
- Golbeck, J., Alford, A., Alford, R., & Hendler, J. (2005). Organization and structure of information using semantic web technologies. In R. W. Proctor & K. L. Vu (Eds.), *Handbook of human factors in web design* (pp. 176-189). Mahwah, NJ: Erlbaum.
- Gonczi, A. (2004). The new professional and vocational education. In G. Foley (Ed.), *Dimensions of adult learning: Adult education and training in a global era* (pp. 19-34). Crows Nest, New South Wales, Australia: Allen & Unwin.
- Gunawardena, C. N. (2004). The challenge of designing inquiry-based online learning environments: Theory into practice. In T. M. Duffy & J. R. Kirkley (Eds.), *Learner-centered* theory and practice in distance education: Cases from higher education (pp. 143-156). Mahwah, NJ: Erlbaum.
- Johnson, V. C. (2000). Using technology to train weather forecasters. *T H E Journal (Technological Horizons in Education)*, 27(11), 24.
- Kiekel, P. A., & Cooke, N. J. (2005). Human factors aspects of team cognition. In R. W. Proctor & K. L. Vu (Eds.), *Handbook of human factors in web design* (pp. 90-100). Mahwah, NJ: Erlbaum.
- Kreijns, K., Kirschner, P., & Jochems, W. (2003). Identifying the pitfalls for social interaction in computer-supported collaborative learn-

ing environments: A review of the research. *Computers in Human Behavior 19, 335–353.*

- Mayes, T. (2002). The technology of learning in a social world. In R. Harrison, F. Reeve, A. Hanson, & J. Clarke (Eds.), *Supporting lifelong learning* (Vol. 1, pp. 163-175). London: RoutledgeFalmer.
- Polin, L. (2004). Learning in dialogue with a practicing community. In T. M. Duffy & J. R. Kirkley (Eds.), Learner-centered theory and practice in distance education: Cases from higher education (pp. 17-46). Mahwah, NJ: Erlbaum.
- Ruopp, R. (1993). Labnet—Toward a community of practice. Hillsdale, NJ: Erlbaum.
- Simpson, O. (2003). Student retention in online, open, and distance learning. London: Kogan Page.
- Snyder, W. M., Wenger, E., & De Sousa Briggs, X. (2003). Communities of practice in government: Leveraging knowledge for performance. *The Public Manager*, 32(4), 17-34.
- Tele Apprentissage Communautaire au Transformatit (1998). *Learning community, a definition.* Retrieved November 15, 2008, from http://www.tact.fse.ulaval.ca/fr/html/prj-7.1/ communy2.html#debut
- Tu, C. (2004). Online collaborative learning communities: twenty-one designs to building an online collaborative learning community. Westport, CT: Libraries Unlimited.
- Wenger, E. (2000), Communities of practice and social learning systems. *Organization*, 7(2), 225-246.
- Wisher, R. A. (2004). Learning in the knowledge age: Up-front or at a distance. In T. M. Duffy & J. R. Kirkley (Eds.), Learner-centered theory and practice in distance education: Cases from higher education (pp. 183-196). Mahwah, NJ: Erlbaum.

"One definition of a learning community ... is a group of students and at least one educator who, for a while and motivated by common vision and will, are engaged in the pursuit of acquiring knowledge, abilities, and attitudes."

Increase Your Enrollments! Offer Online Degree Programs By Spring "09!

Learning House is Your Online Education Partner.

Services:

Online Campus Development Course Publishing Learning Mgt System Hosting Online Program Marketing 24/7 Technology Support Faculty and Staff Training Online Faculty Sourcing Online Education Consulting

To learn more about our services, visit us on the Web at: www.learninghouse.com

*e*LearnPortal_{com}

eLearnPortal brings online colleges and nontraditional students together!

eLearnPortal is a:

- Directory for high-quality online degree programs
- Web promotional tool for colleges and universities offering online education
- Virtual resource for adult learners seeking accredited online degrees

To view our client directory, visit us on the Web at: www.elearnportal.com

ARNINGHOUSE"

Establishing Military Remote Learning Centers

David M. Lorenz

INTRODUCTION

Distance education is a fantastic option for many individuals pursuing degrees, especially if they are unable to attend a traditional brickand-mortar college or university. For those in the military who are stationed at remote locations across the globe, distance education in not just an option—it may very well be the only option.

In order for military members to take full advantage of distance education while assigned to a remote location, it is paramount that a local learning center be established focusing on two key objectives:



David M. Lorenz, Chief Master Sergeant, USAF, and Doctoral Student, Nova Southeastern University, 468 E 3425 N, North Ogden UT 84414. Telephone: (321) 704-5329 (1) The learning center must optimize the potential of distance education courses; and (2) the learning center must meet the immediate needs of the military member while he or she is on a remote assignment.

As in corporate and academic organizations, the cost associated with designing any learning facility is always a primary consideration. Military organizations face the same financial concerns—monies received from taxpayers and designated for national defense cannot be used to establish an off-duty learning center. Rather, a creative approach is needed that makes effective use of on-hand materials, services, equipment, and technology.

This article attempts to address the two key objectives mentioned previously by identifying several low-cost ideas that if implemented could enhance distance education capabilities at remote locations. Although the focus of this article is specifically military learning centers, the same concepts could be used in other settings as well.

INCREASED DEMAND FOR DISTANCE EDUCATION

Frequent deployments and relocation are significant factors affecting enlisted members of the armed forces, specifically when pursuing their academic goals such as earning a degree from a college or university. As a result, distance education has become a highly valued method of learning for those in the military, as it allows an individual to enroll in a particular degree of choice, and provides access to classes while they move around the country. One survey from the United States Department of Education, as cited by Lyons (2004), stated that the enrollment for distance education courses grew from 750,000 in 1994-1995 to 2.9 million in 2000-2001 (Li & Irby, 2008)

However, there is another portion of this same population that is assigned to remote locations that are void of any traditional educational facilities. In order for this population to meet their educational goals, they must seek education opportunities that rely entirely on distance education. This unique circumstance has made an impact on many older military members.

Johnston (2006) identifies baby boomers as the largest generational population—to a large extent, this is true in the military. He accurately emphasizes his concern of lost skills associated with training (or in the case of military distance education-the loss of educational opportunities for older veterans) as the boomers continue to retire in large numbers. Skaer (2007) similarly addresses generational issues when considering the use of online (web-based) learning methods for the baby boomers, stating that boomers are reluctant to step into the new world of online learning, and that the younger generation seems to be eager to take the leap. This reasoning seems to explain why the younger enlisted population has accepted distance education as a primary means of achieving their academic goals.

Another factor in the demand for distance education is noted, as senior leadership, highly technical weapon systems, advanced communications, and keen competition for promotions have become the primary motivation of enlisted members in seeking degrees from higher educational institutions. As a result, there is a significant increase in military members participating in higher education and thus taking advantage of distance education courses offered by accredited colleges and universities.

BUDGETARY ISSUES

The cost of starting a remote learning center at a military location is dependent upon several factors. The main cost for setting up a remote learning center at Utah Test and Training Range, as with other military locations, is typically the cost of providing reliable Internet access. Because of the range's remote location, the only source for Internet access is the satellite signal that is provided by the government. This signal is a vital part of the day-to-day communications used by the field organization. If, on the other hand, the unit is not maximizing their use of the signal's bandwidth, additional access is then made available for distance education and recreational use.

Another associated cost is the computers and other peripherals necessary to communicate during distance education courses. Again, if this hardware is not being used by the field organization, it would be appropriate for it to be used by the members for educational purposes. Locating the computers near their work area is not always the best situation, but in many cases it will cut operating costs considerably.

CHALLENGES AND POSSIBILITIES

Those stationed at remote locations face many unique challenges accessing distance education. Duty schedules, time zone differences, and limitations of technology are just a few that affect students at these locations. Additionally, the method of distance education, such as asynchronous learning or synchronous learning, will determine what technology is necessary and what limitations may result. Asynchronous online education provides a time-independent and place-independent learning environment, which makes it convenient and flexible for [military] learners (Li & Irby, 2008). With synchronous learning, the scheduling of when classes meet and what technology is necessary is of primary concern to the student.

Making use of on-hand technology is important to students. Access to videoconferencing, telephone lines, or the Internet is vital to students if they are going to take a synchronous course. The on-hand technologies at the remote location could mean the difference between students achieving their academic goals or putting them on hold until they return to a location where access is readily available. However, before using on-hand technology as previously described, it is paramount that students receive official permission to use the equipment for educational purposes.

Another challenge faced at remote locations (or any military location, for that matter) is network firewalls placed into the system to protect against viruses, spyware, or malicious programs designed to corrupt military data. These firewalls may prevent student access to the distance education courses in which they are enrolled. Prior to committing to a specific program, students must determine if their particular course will be blocked.

THE APPROACH

In establishing a remote learning center at a desired location, it is necessary to determine what type of Internet access is available and what technologies already exist. This process helps to meet the first key objective: the learning center must optimize the potential of distance education courses. At the Utah Test and Training Range and at a location in northern Iraq, available satellite Internet access and several older unused computers capable of handling online courses allowed for easy setup of a small remote learning center.

In order to satisfy the second key objective, the learning center must meet the immediate needs of military members while they are on a remote assignment, a needs assessment of the prospective students is necessary. This can be done by asking students basic questions as to what their courses require in relationship to technology and learning method (asynchronous or synchronous).

NEEDS ASSESSMENT

Morrison et al. (2007) address six identifiable categories of needs; of the six categoanticipated or future needs ries. particularly fits the student of a remote learning center. The younger generation currently being enlisted is very comfortable with learning at a distance, as it seems to closely match their learning styles. As Bernard points out, the styles of learning experienced by the older boomers differ significantly from those of the younger employees (Bernard, 2007). To best address the needs for the student a face-to-face interview would produce valuable information during this needs assessment (Morrison et al., 2007).

PHASE I: PLANNING

Based on a relatively small population of students, it is wise to collect data using a face-to-face interview with the student. This decision is useful in capturing personal experiences and identifies aspects of past learning experiences that would be useful in designing the learning center. Students would be interviewed to address their learning styles and measure their capability of learning with the use of technology.

PHASE II: COLLECTING DATA

An appointment with individual students should be made in order to complete the data collection. The following questions are typical:

- How long have you taken distance education?
- What is the primary method of learning?
- How do you prefer to learn?
- What suggestions do you have for the learning center?

- How much experience do you have with distance education?
- How much time is expected to be spent studying for your course?

PHASE III: DATA ANALYSIS

Notes from each member's interview should be analyzed to find common issues or recurring needs. Special attention should be made to identify past learning failures and to identify critical technologies associated within the courses.

PHASE IV: FINAL REPORT

Upon analyzing the interviews, the final report or assessment should identify issues the students may face during their academic experience as well as address concerns and desires of the learning center. Additionally the assessment should identify what technologies to implement into the remote learning center.

TECHNOLOGY

TECHNOLOGY CONSIDERATIONS

In considering what technologies to include at the learning center, it is important to balance the desired technologies identified in the needs assessment with those available at the location. Prior to setting up the learning center, it would be wise to fully address the overall performance needs and conduct a goals analysis (Morrison et al., 2007) for the remote learning center.

Research must be conducted before accessing government technology to ensure strict compliance with Department of Defense and organizational informational technology directives. There are many prerequisites that must be accomplished before establishing a remote learning center.

COMPUTERS

Computers that are selected for use in the remote learning center at the Utah Test and Training Range were acquired from within the organization as it made upgrades and replaced older models. This method of procurement may seem less than ideal at first, but considering the shortage of financial resources, it is the only way for many organizations to procure them. Many of the computers available for use at the remote learning center are only 5 or 6 years old and still have a suitable processor and adequate memory, making them suitable for most distance education courses.

However, perhaps of a larger concern is the system's ability to operate effectively using updated versions of software, as today's software is far more dependent on memory and processer speed. Prior to enrolling in a course, it is advised that the student consider the technology requirements of the educational institution.

VIDEOCONFERENCING

Many distance education courses require at least a portion of the course to be taught synchronously. elaborate An method of synchronous presentation is videoconferencing, in which live conference or peer groups meet in a room that has video accommodations such as webcams and flat screen TVs. This method may be affordable if the organization has an existing conferencing system available for the students' use. If this availability does not exist, it would be far less expensive to purchase small webcams for computer use.

AUDIO/CD-ROM/DVD/VCR

Several students are enrolled in asynchronous learning environments that use CD-ROM/DVD recorded data and/or video streaming, or VCR tapes that may simply be a recorded session of traditional classes. To maximize this type of instructional technology, the learning center must have access to cassette/CD players, computers, televisions/flat panels, DVD players, as well as older VCR players.

Typically, the student must purchase storage media and learn how to operate the technology, as information technology experts are not always available. Additionally, it is the student's responsibility to ensure that storage devices are scanned for viruses and are in compliance with the organization's regulations.

INTERNET

The Internet is perhaps the most commonly used method of accessing distance education at remote locations. The method of use may vary from web-based/online courses to simply a means to deliver courseware to the student. How the Internet is used depends on the mode of access the remote location has and how much bandwidth is available for use.

Access to the Internet at remote locations tends to be very limited. Organizational requirements determine how much bandwidth is available and how much of that bandwidth can be used to support distance education and recreational use. The Utah Test and Training Range has significant bandwidth available after normal duty hours and is provided by satellite communications.

EVALUATIONS

It is important to seek continuous feedback from students to ensure the remote learning center is adequately providing the resources necessary for their courses. By continuously monitoring the students' satisfaction, the learning center is always in the process of being revised and improved. As new students participate in distance education, conducting additional needs assessments will ensure the students have access to the required technologies for their courses.

Over time it becomes necessary to evaluate the overall capabilities of the learning center and make adjustments as appropriate. This is the time to consider upgrading and replacing obsolete hardware and software.

CONCLUSION

Establishing a remote learning center is not an extremely difficult task, but it is a task that will provide military students an opportunity to achieve their personal academic goals. It is imperative to identify student needs and what technologies are available for distance learning. Even more important is receiving the approval of senior leadership prior to going online or using government property.

With the prerequisites accomplished and a small amount of available resources, a remote learning center will function much like a formal educational setting in a populated area. The concepts expressed in establishing a military remote learning center are very similar to what might be used in a corporate or educational setting. In any setting, distance education can maximize the potential of students from all backgrounds.

REFERENCES

- Johnston, R. (2006). Leadership: Having the right people for the right jobs at the right time. *Corrections Today*, *68*(5), 62-65.
- Li, C. -S., & Irby, B. (2008). An overview of online education: Attractiveness, benefits, challenges, concerns and recommendations. *College Student Journal*, 42(2), 449-458.
- Morrison, G. R., Ross, S. M., & Kemp, J. E. (2007). *Designing effective Instruction* (5th ed.). Hoboken, NJ: Wiley.
- Skaer, M. (2007). Online learning growing slowly but surely for HVACR. Air Conditioning, Heating & Refrigeration News, 231(2), 1, 37-38.

When It's Your Life...

You TRAIN You DELIVER You DEVELOP

Well, we have something in common.

Our degree programs in Instructional Technology and Distance Education are designed for TRAINERS and educators who can DEVELOP and implement learning activities using technology to DELIVER instruction to learners not bound by time or place.

NSU's Fischler School of Education and Human Services is offering master's and doctoral degrees of education in Instructional Technology and Distance Education.







For more information, contact us at 800-986-3223 or visit our Web site at www.SchoolofEd.nova.edu/itde.

On-site. Online. Worldwide.

SOUTHEASTERN UNIVERSITY Bringing life to

Nova Southeastern University admits students of any race, color, and national or ethnic origin. Nova Southeastern University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097, Telephone number: 404-679-4501) to award associate's, bachelor's, master's, educational specialist, and doctoral degrees. 10-014/04 Pga

Teleradiology and Teleneurology Serving Health Care Needs

Joan M. Rehnert

INTRODUCTION

Health care is known for lagging behind corporate America in its use of computer technology. With the Obama administration proposing to spend \$19 billion to encourage the incorporation of electronic medical record systems (EMR) into health care facilities, changes will need to occur (Lohr, 2009). Some improvements have already taken place in an area known as telemedicine. Although telemedicine has been around as long as the telephone, the first video tele-



Joan M. Rehnert, Doctoral Student, Nova Southeastern University, 5 Glen Road, Levittown, PA 19057. Telephone: (215) 269-9691. E-mail: jrehnert@nova.edu

medicine was used in the 1920s by neurologists and psychiatrists in Nebraska (Cucina, 2009). At first, any video and audio information was transported physically by the patient to another physician but now this type of information is streamed over secure networks on the web (Cucina, 2009). Telemedicine has been evolving for the last 10 to 12 years and is defined as interactive health care using modern telecommunications (Telemedicine.com, 2007).

Teleradiology

Various practices have become involved in telemedicine and one that has made extensive progress is radiology. Teleradiology is the electronic transmission of radiographic images and related information from one location to another (University of Iowa Hospitals and Clinics, n.d.). The ultimate goal of teleradiology is to become a filmless and paperless solution for the radiology department and patients (General Electric Company, 2009). With the widespread use of digital imaging, it is possible to view images on computers. Teleradiology has been further improved by the development of picture archiving and communication systems (PACS). An average hospital doing "200,000 radiological examinations per year accumulates about 10 gigabytes per day or three to five tetrabytes per year" (Hung, 2002, p. 84) of digital information. PACS are responsible for

managing and storing this huge amount of information for the healthcare facility. Management of the images, as well as the related patient data, is performed by PACS and aids in the streamlining of the patient care process. Improvements in digital imaging in computed radiography (CR), digital radiography, (DR), computed tomography (CT), magnetic resonance imaging (MRI), microscopic imaging (MI), and ultrasound have aided the increased use of teleradiology (Hung, 2002). Also included in teleradiology are x-ray readings in images in nuclear medicine (Night-Hawk Radiology Services, 2001-2009).

Teleradiology was initially created to aid radiologists in reading and reviewing images from home (Hung, 2002). In a 2003 study, over two thirds of the radiology practices in the United States reported using teleradiology services to send images to the radiologists at home or to outside radiologists. By using a web-based PACS, a radiologist can now read and report on the findings from home, another floor in the hospital, or from the other side of the globe (Steinbrook, 2007).

A radiologist having dinner at a friend's home may be paged to read a CT scan. Before the web-based PACS, he would have gone to the hospital to read the scan and interrupted the dinner. Now, he can use the friend's computer and access the scan on the web. No special program or software is needed. The radiologist uses his specific sign-on to access the website, reviews the scan, and then enters the results into the program. He has done all this without having to leave his dinner (B. M. Hoppenfeld, MD, personal communication, March 26, 2009). The hospital can access the results as soon as the radiologist has completed his report.

Not only have the viewing options increased with the use of the web-based program, but PACS are now able to archive these studies online forever and allow the radiologist to view the file in one to two seconds (General Electric Company, 2006). As long as the computer being used has an Internet connection, the recent and archived files can be viewed. Radiologists require four factors to be present in PACS to be satisfied with the system. The reporting must be accurate for the content, the teleradiology staff must be available to interact with the in-house radiologist and/ or physician, there must be technical help available when needed, and there must be an acceptable turnaround time for results (NightHawk Radiology Services 2007).

A referring physician and a radiologist are able to have a telephone consultation while viewing the same images. Many PACS also provide the ability to produce CDs of the image and/or allow e-mailings with encrypted links to the online image to ease the process of sharing images (General Electric Company, 2006). Web-based viewing facilitates the review and discussion of the patient's condition as well as shortens the waiting time for the patient to receive treatment. When the PACS are integrated with the hospital's EMR, and single sign-on is available, the physician has the ability to retrieve information from the patient's medical record as well as viewing other images that are part of the patient study (General Electric Company, 2006).

Emergency departments (ED) are busy 24/7 and often order images from the radiology department as part of their diagnosis for treatment. When the only available radiologist is at home, asleep, there will be a delay until she arrives and reads the image. This impedes the ED physician from treating the patient in a timely manner. This is where international teleradiology steps in to help. When it is 2:30 A.M. in Pennsylvania, it is 9:30 A.M. in Israel and the radiologists there are at work reviewing images. Besides Israel, radiologists working for accredited teleradiology companies are located in Switzerland, India, and Australia (Wachter, 2006). Some images may even be reviewed here in the United States by radiologists in their homes. These radiologists have set up businesses of their own or may be working evening and weekend hours reviewing images from an affiliated health care provider (Steinbrook, 2007). While the ED radiologist is at one hospital, she can also be reading images for other hospitals in the area as well. Webbased PACS do not put limits on the distance between the radiologist and the facility.

Many teleradiology companies have been accredited by the Joint Commission. This commission is the "standards-setting and accrediting body in health care" (The Joint Commission, 2009, para. 2) and evaluates more than 16,000 health care organizations in the United States. One of these accredited teleradiology companies is NightHawk Radiologist Services, the largest teleradiology company in the United States, headquartered in Coeur d'Alene, Idaho. NightHawk is also in compliance with the American College of Radiology and follows the patient privacy standards put forth by The Health Insurance Portability and Accountability Act (HIPAA) of 1996. NightHawk provides services for a quarter of the hospitals in the United States (Steinbrook, 2007) and has a turnaround time of 20 minutes from the time the images and patient information reaches the teleradiologist until the preliminary evaluation is sent to the hospital. If there is an immediate concern, the local physician is called by the teleradiologist and a plan of care is discussed. If there is no sign of immediate care, the next morning the on-staff radiologist enters a final report and compares his findings with the NightHawk information to ensure comprehensive patient care. The radiologists working for this service are located mainly in the United States, Australia, and Switzerland. All are United States board-certified, state-licensed, and hospital privileged (NightHawk Radiology Services, 2001-2009). This means that the radiologist from NightHawk who is reading the MRI from the ED has the same credentials as the radiologists who are onstaff at the hospital. Many of these radiologists were educated in the United States but are now living elsewhere (B. M. Hoppenfeld, MD, personal communication, March 26, 2009). The teleradiologists may have a room in their house or a facility nearby to use when responding to EDs around the world.

Teleradiology has costs saving benefits right from the start. There is no longer any need for film and chemicals to develop images and therefore no need to have the people or storage necessary to manage and handle them. There is a faster turnaround time since digital images are available immediately and that means the patient has a shortened waiting time. (Hung, 2002). There is no longer a need for the patient to carry and return x-rays after a visit with an off-site physician. The digital images and patient information can now be burned to a CD or provided online, depending on the resources of the physician (General Electric Company, 2006). There had been a problem with opening CDs on other computers; however, since 1993, Digital Imaging and Communication in Medicine (DICOM) has been the global standard for technology information and is used by hospitals, imaging centers, specialists, and clinics around the world (DIA-COM, n.d.). Patients also benefit from teleradiology by allowing specialty radiologists to be available to rural area hospitals without the cost and time of travel. Teleradiology is seen as a way to improve the quality of care for all patients, but especially those in rural hospitals. The flexible hours for teleradiologists may make the practice of radiology more attractive to people who would not have considered it before (Steinbrook, 2007).

TELENEUROLOGY

Neurology, following radiology, psychiatry, and dermatology, has joined the ranks of modern telemedicine. Neurologists have held telephone consultations for years, but it was not until 2004 or so that email and videoconferencing became part of these consults. The two primary reasons for using teleneurology is to provide care for patients where there is limited ability to provide a face-to-face meeting and to improve the effectiveness of existing services (Patterson & Woolton, 2006).

As was noted before, the medical profession is known for its slow adoption of technologies. This may be one of the reasons teleneurology had not progressed sooner. The use of e-mail and video conferencing technology, both skills which the physicians may need to improve and are included in teleneurology, may be the reasons for the delay (Patterson & Woolton, 2006). Another reason may be the neurologists' use of the hands-on method of practicing. Although an examination is still possible, the neurologist is just an onlooker. Legal concerns may have been a question at one time but, as in teleradiology, teleneurologists are licensed for the country, state, and hospital where the patient is being seen (Specialist On Call [SOC], n.d.).

In the United States, stroke is the third leading cause of death, with 700,000 deaths per year, and the leading cause of disability, with more than 1.1 million cases per year (Baptist Health Care, 2009). There are two types of stroke, the more common (88 %) being an ischemic stroke. This type of stroke is caused by a clot blocking an artery that carries blood and oxygen to the brain. When this occurs, nerve cells in the brain begin to die in a matter of minutes (SOCH, 2007). There is a three-hour window for administering the only approved treatment, which "increases the likelihood of functional independence" (Virtua Health, 2006, ¶ 4). If a person has sudden confusion, trouble seeing, trouble walking, or dizziness, all warning signs of a stroke, and is taken to the ED, there is a chance that the ED physician may miss the fact that the patient is having a stroke. If there is no neurologist to consult, the patient may not

get the needed treatment during that 3hour window. Teleneurology allows a certified neurologist to be available. Specialists On Call (SOC), the largest and only teleneurology consultant company to be accredited by the Joint Commission, can provide these services to the hospital ED (Baptist Health Care, 2009).

SOC, available since 2005, states that everyone wins with their business model: patients and families, on-staff and local physicians, ED staff, and hospitals (SOC, 2008a). The patient and family are seen by a specialist in a timely manner. The physicians and ED staff have a certified neurologist as a consultant in a plan of care for the patient. The hospital avoids violating the federal Emergency Medical Treatment and Active Labor Act (EMTLA). This law states a hospital cannot turn anyone away who needs medial attention. If the hospital does not have the services needed by the patient, the patient may not be transferred to another hospital until he or she is stabilized. The SOC neurologist will assist in stabilizing the patient so he or she can be transported to a hospital with the necessary services (SOC, 2008b).

SOC has a procedure to follow whenever an ED physician needs to consult with a teleneurologist. The consultation begins with a telephone call from the ED physician to the SOC call center, where the needed patient and hospital information is exchanged. The SOC physician will respond to the request within 15 minutes by calling the ED physician. The patient's situation will be reviewed and the next steps decided. If a videoconference is necessary, the portable TeleMD video conferencing device is brought within three feet of the foot of the patient's bed. The monitor provides a way for the patient and family to view and hear the SOC physician. The equipment also includes a speaker and microphone for the audio portion. The SOC doctor can remotely control the video camera as well as zoom close enough to exam the pupil of the patient's eye (C.

Lang, RN, personal communication, April 2, 2009). The SOC physician, professionally dressed, will appear on the screen to discuss the findings with the patient and family. With the assistance of the nursing staff at the patient's bedside, the SOC physician will examine the patient. The ED physician need not be present for this examination. This allows the house doctor to examine another patient while the videoconference occurs. The SOC physician will finish the exam and answer any questions the patient or family may have. When the videoconference is over, the SOC physician will have a telephone consultation with the ED doctor to pass on the neurologist's recommendation for the plan of care The recommendations are then sent by fax to the treating doctor with documentation of the exam (SOC, n.d.). "All recommendations are standardized and evidence based and conform to the latest American Heart Association Standards" (SOC, n.d., p. 5). Patient consent forms are also part of the examination and must be signed by the patient and then faxed to the SOC doctor before the consultation and/or an examination can be completed.

Telemedicine, including teleradiology and teleneurology, have been aiding patients, physicians, and hospitals with necessary care 24/7, whether in a busy city or a rural community. It is unusual to think the "laggards of technology" would be using words like globalization of care, telecommuting, or outsourcing, common terms in the business environment, but it is happening more and more each day.

REFERENCES

- American Telemedicine Association. (2009). *Telemedicine defined*. Retrieved March 23, 2009, from http://www.americantelemed.org/i4a/ pages/index.cfm?pageid=3333
- Baptist Health Care. (2009). Baptist Hospital introduces teleneurology as part of comprehensive stroke program. Retrieved April 8, 2009, from http://www.ebaptisthealthcare.org /StrokeCare/Teleneurology.aspx

- Cucina, R. (2009). Information technology in patient care: The Internet, telemedicine, & clinical decision support. Retrieved March 27, 2009, from http://www.qaccessmedicine.com /content.aspx?aID=779189
- DIACOM. (n.d.). *DIACOM brochure*. Retrieved April 7, 2009 from http://medical.nema.org/
- General Electric Company. (2006). PACS Vendor Questions. Retrieved April 3, 2009, from http:/ /www.dynamic-imaging.com/pdf /DIS-Web-based-Whitepaper.pdf
- General Electric Company. (2009). *My facility hospital*. Retrieved April 1, 2009, from http:// www.dynamic-imaging.com/myfclty /acutecare.html
- Huang, H. K., (2002). Medical image management in healthcare enterprise. Retrieved April 3, 2009, from http://www23.homepage .villanova.edu/don.goelman/CSC2500/ 09MED2006/Huang.pdf
- Lohr, S. (2009, April 5). *Health care industry moves slowly onto the Internet*. Retrieved April 6, 2009, from http://bits.blogs.nytimes.com/ 2009/04/05/health-care-industrymoves-slowly-onto-the-internet/
- NightHawk Radiology Services. (2001-2009). Welcome to NightHawk. Retrieved April 7, 2009, from http://www.nighthawkrad.net/
- NightHawk Radiology Services. (2007). Preliminary interpretations. Retrieved April 7, 2009, from http://www.nighthawkrad.net/index .php?page=sub&id=107
- Patterson, V., & Woolton, R. (2006). How can teleneurology improve patient care? Retrieved April 8, 2009, from http://www.medscape.com/ viewarticle/540191
- Southern Ocean Country Hospital. (2007). SOCH introduces teleneurology. Retrieved April 8, 2009, from http://www.soch.com/ SOCH_overview_news_details.php?id=45
- Specialist On Call. (n.d.) *Implementation manual*. Received from B. Mil.
- Specialist On Call. (2008a). Specialists on Call reaches 5,000 emergency neurology telemedicine consultations. Retrieved April 8, 2009, from http://www.specialistsoncall.com/ index.php?option=com_content&view =article&id=63:specialists-on-callreaches-5000-emergency-neurology-telemedicine-consultations&catid=1:socpress-releases&Itemid=71
- Specialist On Call. (2008b). Telemedicine solving the on-call dilemma. Retrieved April 8, 2009,

from http://www.specialistsoncall.com/index .php?option=com_content&view =article&id=61%3Atelemedicine-solvingthe-on-call-dilemma&catid=3%3Asocin-the-news&Itemid=71

- Steinbrook, R. (2007, July 5). The age of teleradiology. *The New England Journal of Medicine*, 357(1), 5-7.
- Telemedicine.com (2007). *What is Telemedicine?* Retrieved March 25, 2009 from http://www .telemedicine.com/whatis.html
- The Joint Commission. (2009, April 1). Facts about the Joint Commission. Retrieved April 7, 2009, from http://www.jointcommission.org/

AboutUs/Fact_Sheets/joint_commission_ facts.htm

- University of Iowa Hospitals and Clinics. (n.d.). *An introduction to teleradiology.* Retrieved April 3, 2009, from http://www.radiology .uiowa.edu/MoreRAD/Teleradiology/ Tele.html
- Virtua Health. (2006). Virtua is first in NJ to offer teleneurology technology. Retrieved April 8, 2009, from http://www.virtua.org/page .cfm?id=neighbors_showstory&testimID =160
- Wachter, R. M. (2006, February 16). International teleradiology. *The New England Journal* of *Medicine*, 354(7), 662-663.

"TELERADIOLOGY IS THE ELECTRONIC TRANSMISSION OF RADIOGRAPHIC IMAGES AND RELATED INFORMATION FROM ONE LOCATION TO ANOTHER."

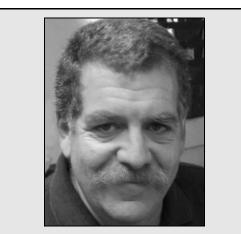
Getting Connected to the California K-12 High Speed Network

An Overview of Services and Applications

David Billett

INTRODUCTION

alifornia, the most populous state in the union, is a state of innovation and promise. The size, population, and geography of California present unique challenges to equitable delivery of quality instruction to K-12 students. As a solution to the problems of getting all of California's K-12 students connected to learning and communication resources, the California K-12 High Speed Network



David Billett, Technology Resource Teacher, Henry T. Gage Middle School, Los Angeles Unified School District, 2880 East Gage Avenue, Huntington Park, CA 90255. Telephone: (323) 826-1500. E-mail: dbillett@lausd.net

(K12HSN, the network) was established under a grant provided by the California Department of Education. The K12HSN program connects to a statewide intranet supported by the Corporation for Education Network Initiatives in California (CENIC). The K12HSN provides support for California's K-12 public schools with network connectivity, Internet services, distance education and classroom applications for teaching and learning, in addition to videoconferencing support and coordination. With classroom and distance education resources, the K12HSN provides a number of technical support applications and diagnostic tools for school sites, districts, and county offices of education (COEs).

WHY THE K12HSN?

When properly implemented and capitalized, online technologies possible only with high-speed Internet access enable students to become more independent learners at increasingly advanced levels (Nicholas & Ng, 2009). Access to online resources and learning opportunities is only truly equitable when students are able to universally access high-speed Internet connections (North American Council for Online Learning [NACOL], 2007).

Services provided by the K12HSN align with recommendations proposed by State

Educational Technology Directors Association (SETDA, 2008). The goals of SETDA and the K12HSN include:

- access to online assessments, data and administrative tools;
- online and distance learning opportunities;
- individualized special education learning;
- Web 2.0 technology tools; and
- online and hybrid professional development opportunities.

Online assessments make data more accessible to administrators and teachers. Not only do online assessments measure what students have learned, but offer administrators and teachers access to information directly related to improvement of teaching practices while individualizing instruction for learners. Online and distance learning opportunities permit students without on-ground opportunities to study in Advanced Placement or elective classes through high-speed Internet access, where otherwise no courses or access would be available. Likewise for special education-a variety of available online resources make learning with experts and specialists a practical possibility.

High-speed Internet access is essential in providing professional development opportunities. Strategies endorsed by SETDA are available through the K12HSN. Education Portals, such as the California Learning Resource Network (CLRN), the California Technology Assistance Program (CTAP) and EdTech Profile enable teachers to search for standards-based instructional material and professional development opportunities designed to meet the diverse needs of all California teachers.

ACCESS AND EQUITY

By providing high-speed educational access in California public K-12 schools, the K12HSN assures equity by offering online

high-quality delivery of educational resources without resorting to a tiered system of Internet connectivity. Private, commercial Internet providers have no legal obligation to offer affordable high-speed Internet access and can block or give preference to Internet resources and applications with no involvement or consultation from subscribers. Unfettered and no-cost access to distance learning applications and resources serves educational goals to raise literacy and student achievement (Windhausen, 2008).

BROADBAND CONNECTIVITY

The K12HSN fulfills a critical need for broadband connectivity in schools. With a commitment to providing broadband connectivity, the K12HSN offers access to emerging distance education applications for student learning, as well as online resources for professional development, school administration, and content sharing. The high-quality videoconferencing capabilities of the network facilitate meaningful two-way, interactive, and real-time educational experiences. More accessible, faster, and more reliable Internet means more access to and from school communities. Parents can videoconference with teachers, administrators, and support personnel, and students and teachers can collaborate on projects with counterparts in remote locations and receive expert-led lessons from virtually any location.

CENIC is a partner in realizing the need for broadband connectivity for all K-12 education institutions and students. The California Research and Education Network (CalREN) is the result of CENIC resources dedicated to cost-effective, high bandwidth networking to support the missions and needs of school faculties, staffs, and students. The CalREN was designed by CENIC to connect the majority of K-12 and higher education institutions to facilitate collaboration in education and research. A fiber optic network backbone

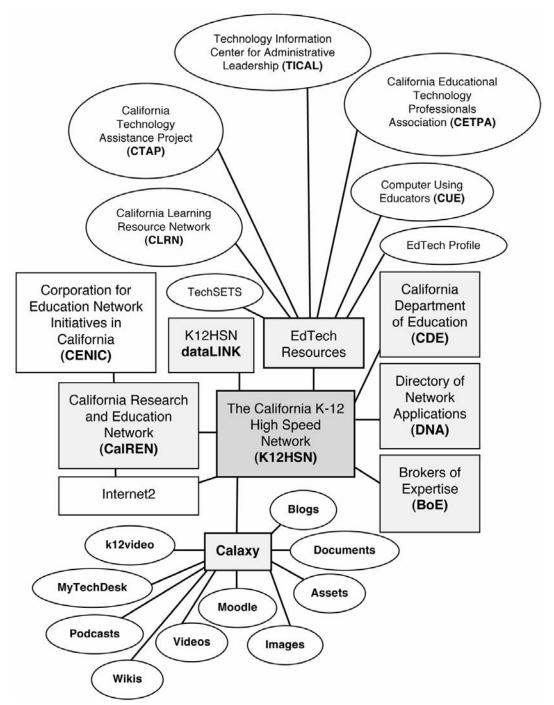


Figure 1. Applications and services of the California K-12 High Speed Network.

connects schools to county offices of education (COEs) in all 58 counties of California (CENIC, 2009). A high-speed network for K-12 schools lifts constraints of educational opportunities imposed by a lack of or poor Internet connectivity. The K12HSN complies with recommendations made in the Final Report of the California Broadband Task Force (2008). The Final Report emphasized expansion of educational opportunities through increased access and use of broadband connectivity. By expanding broadband connectivity, the State of California and the K12HSN can "leverage educational opportunities" with a "robust technology support system" to provide appropriate curricular resources for students in meeting academic standards and developing skills to compete in the global economy.

PARTNERSHIPS, ASSOCIATIONS, AND AFFILIATIONS

The California Department of Education (CDE) initiated the K12HSN with a grant to the Imperial County Office of Education (ICOE) in 2004. Through ICOE, the California Department of Education (CDE) provides funding for the K12HSN in addition to facilitating collaboration between educational agencies and projects, financial and administrative services and technical oversight (CDE, 2008). As the lead state agency for K12HSN, ICOE received significant funding from the State of California. The K12HSN project shifted management from the University of California to the CDE to broaden the scope of services available to students at all public education institutions. The shift to the CDE, and ultimately to ICOE, was an effort to focus on technology and curriculum needs for the K-12 community. The CDE realizes that educators need to collaborate with one another to enable critical thinking about teaching practice, and provide effective tools to assist in closing the achievement gap and raising overall student achievement across the state (ICOE, 2009).

The Corporation for Education Network Initiatives in California, CENIC, and the California Research and Education Network (CalREN) are partners in combining resources to implement the K12HSN with high capacity, high-speed connectivity to schools and research institutions in California. The CalREN infrastructure for K-20 California research and education users operates at the third tier of a three-tiered network service. CENIC owns and manages 2,700 miles of fiber optic connection supported by cutting edge networking technology components. The upper two tiers of the CalREN network are reserved for the High-Performance Research Network and an experimental/developmental infrastructure for network researchers (CENIC, 2009a).

CENIC and CalREN acknowledge the increasing significance of high performance connectivity to California K-12 schools. After a recent annual CENIC conference, the president of the organization revealed that results from a post-conference survey indicated that members and constituent organizations expressed increasing interest in online learning applications (CENIC, 2009). This unsurprising revelation bodes well for the ongoing development of increasingly sophisticated distance education applications accessible to K12HSN users. The CENIC organization has also made a commitment to use distance education applications to increase online participation for future conferences.

CalREN also links to the national Internet2 network as part of the Internet infrastructure dedicated to education. Internet2 is billed as one of the leading proponents of advanced networking, and is led by key members of the research and education communities. Internet2 supports the K12HSN with a split mission. As a partner in K12HSN, Internet2 "supports and enhances ... educational and research missions" in and is committed to sustaining advances in the Internet infrastructure (Internet2, 2009). As a partner in providing high speed, high capacity Internet connectivity to California K-12 schools, Internet2 services are able to actively engage the education community in the development of new communication and information technologies that support online learning and teaching.

The DataLINK service of the K12HSN was designed and implemented to directly connect connectivity data with related information from California K-12 schools. DataLINK is a database of K12HSN schools and districts and the types of constituent connections to the state infrastructure. Connectivity information is aggregated and provided by DataLINK primarily to gauge and assess at school site, district, county, region, and state levels. Future implementations of DataLINK promise to expand and allow correlation of collected connectivity data between other databases that include student performance and demographic information. The goal of facilitating access to multiple databases will be to ensure that K12HSN resources and connectivity are having a positive impact on student achievement statewide, in addition to providing data for making sound decisions towards student and school success.

The Directory of Network Applications (DNA) is another service delivered by the K12HSN primarily to provide access to locally produced content resources. Focusing on the practitioner, the DNA assists in locating electronic instructional support materials developed by institutions, agencies, and individuals in California. Limited to electronic materials that reside on the K12HSN, DNA assures fast and reliable access to the instructional material. Efficient access to DNA materials allows for a comprehensive search solution as well. The DNA custom search capabilities let users search by resource type, curriculum area, grade level and California subject area content standards. Most content is provided free of charge to schools and COEs. There are several fee-based services available through contracts initiated by the state, COEs, and districts, usually at extremely low or reduced prices.

The California Learning Resource Network is a component of K12HSN that proa clearinghouse of electronic vides learning resources (ELRs) aligned to California state curriculum frameworks and standards. Resources are approved for inclusion in the CLRN through a review process that coves legal compliance, standards alignment, and minimum requirements set forth by the California State Board of Education. Operating as an evaluator of instructional content for California public schools, CLRN objectives are geared to teachers, instructional coaches, and others responsible for instructional delivery. The CLRN's stated objectives are to: (a) identify and review supplemental electronic learning resources such as software, video, and Internet resources; (b) identify learning units aligned to resources and the state academic content standards; and (c) maintain an interactive Web site to provide information about electronic learning resources through an online searchable database and links to state education technology projects and resources (California Learning Resource Network, 2009).

A third-party agency conducted an extensive evaluation study of the CLRN for the 2007-2008 school year. The evaluation process included surveys, self-assessments. interviews, and records of accomplishments to determine awareness and use of the CLRN, and whether the ser-"identifies vice electronic learning resources to meet instructional needs" (Cradler, Beuthel, Cradler, & Barline, 2008, p. 109). The CLRN evaluation results indicated that 91% of survey respondents from the population CLRN users agree strongly that CLRN is useful for identifying ELRs aligned to instructional needs.

The California Technology Assistance Program (CTAP) is another state funded initiative and K12HSN affiliate providing support to schools and districts to integrate technology into teaching and learning. California is divided into 11 CTAP regional offices that emphasize the integration of educational technology and provide support necessary to provide professional development opportunities in addition to sharing online educational resource information. CTAP support is focused into five areas: staff development, technical assistance, information learning resources, telecommunications infrastructure, and coordination and funding (CTAP, 2008).

EdTech Profile is a California Department of Education State Educational Technology Service (SETS) project, providing educational administrators with tools to guide their decisions about integrating technology into classroom instruction and how to create and evaluate effective teacher technology training programs. Information collected from the EdTech Profile is aggregated and used to plan professional development programs. Data are also used to monitor and evaluate state and federal technology grant programs (EdTech Profile, 2009).

TechSETS, an offshoot of the SETS project, operates an online interactive help desk for counties and districts to establish professional development programs and provide enhanced support for school site based instructional technology specialists. Technical support is contracted through the San Diego COE. The Technology Information Center for Administrative Leadership (TICAL) is another K12HSN partner providing professional development for district and site administrators focusing on digital school leadership with data-driven decision-making. TICAL programs are also offered to assist in integrating technology into all facets of school administration. These services are contracted through the Santa Cruz COE with funding provided by the CDE.

The K12HSN is also affiliated with two major professional organizations, the California Educational Technology Professionals Association (CETPA) and Computer Using Educators (CUE). Both of these organizations are concerned with improving student achievement through the use of instructional and communication technology. CETPA emphasizes the improvement of data access for administrative information processing in public education, with the goal of increasing "information sharing and communication among K-12 technolotechnology-related gists on issues" (CETPA, 2009). The goal of CUE is to advance student achievement through technology in all disciplines, from preschool through college. CUE holds a widely anticipated annual conference that is among one of California's most well attended educational technology events.

To tie all K12HSN affiliates, associations and partners together, the CDE has developed the California Brokers of Expertise (BOE) project to connect teachers, schools, and districts with best practices. The BOE project is intended to become a knowledge management system collecting educational research. The body of information gathered would be examined for trends that lead to strategies to implement research for reform and improvement of California schools. BOE goals formed in collaboration with K12HSN include: (a) to provide classroom tools and resources aligned to California Content Standards; (b) to provide easily accessible research-based, instructional resources searchable by grade level, content area and demographic information; (c) to provide opportunities for creating and publishing high-quality content that has been proven effective for teachers; (d) to facilitate communication and dialogue with educators across the state who have similar questions (California BOE, 2009).

WEB 2.0 APPLICATIONS OF THE K12HSN

The K12HSN offers tools for California K-12 distance education and classroom teachers as part of a comprehensive suite known as Calaxy. Applications provided by Calaxy are appropriate for classroom and distance education purposes, anticipating instructional, communication, and technical needs

of teachers. Distance education and other Internet-based applications are hosted on the reliable and robust state network, ensuring consistency in instruction with a minimum of technical interventions required by teachers and other users. One of the primary intents of the Calaxy suite of applications is to give California public school teachers knowledge of and access to what are referred to as Web 2.0 tools. Available tools for designing, developing, and delivering instruction include blogs, document sharing, video and photo sharing, podcasting, wikis, course and learning management, technical support tools, and videoconferencing. Calaxy tools for communication and collaboration include social network and messaging within a trusted community of California educators. Significantly, these services are available at no cost to California public schools.

Tools provided by Calaxy have come about in response to a general call in education for K-12 teachers to prepare their students for collaboration and communication in an environment that should increasingly reflect the ways in which students live and learn outside of the classroom and other instructional spaces. Web 2.0 applications give teachers the means to engage their students through learnercentered activities. Teachers creating learning networks for personal and professional use can expand their network to include teachers and colleagues, with enhanced abilities to access and share information. In addition to the instructional advantages of managing content and learning with Web 2.0 tools, Calaxy services can take the technical load off of school sites and technical support personnel with cloud computing capabilities. Using a cloud computing model, files and other electronic information are not stored and retrieved on local, school site-based computers, but from locations elsewhere on the Internet. Teacher-created learning networks available from any Internet-enabled computer is one way the K12HSN and Calaxy tools

meet the needs of evolving methods for engaging students and delivering instruction on student terms.

School principals, district support personnel, instructional coaches, and other school leaders can take advantage of Calaxy-provided Web 2.0 tools to encourage reform at school sites. Interconnecting with instructional leaders across California can positively affect instruction by demonstrating higher expectations from students and teachers by using social networking, blogs, wikis, and other collaboratools. Leading example, tive by administrators taking advantage of Calaxy tools can set the way for others who have not yet seen the implications of Web 2.0 in education. Calaxy provides practical applications that demonstrate the ability and variety of methods to facilitate communication, collaboration and, ultimately, leadership (Higgins, 2009).

CALAXY TOOLS

Of all the applications and resources provided by the K12HSN, Moodle, the open source course and learning management system, has the most significant implications for K-12 distance education in California public schools. The financial implications are obvious—commercially available equivalents to the Moodle platform are well out of financial reach for most schools, districts, and COEs. Calaxy Moodle courses are available free to all California teachers following a brief verification process. By creating online courses, teachers can offer virtual learning environments for students in blended or completely online programs.

Calaxy offers blogging and wiki services, again at no cost to California teachers. These collaborative online tools let any number of users create Web sites. Blogs and wikis are relatively simple and highly accessible Web 2.0 tools that teachers and students can use for cooperative projects in which all participants can equally create

and add relevant content. The blogging and wiki features of Calaxy offer enhanced functionality with the ability to moderate content added by students and other nonadministrative blog and wiki owners. Alongside blogs and wikis, video and podcasting services are also part of the Calaxy suite of applications. These applications comprise a "new publishing revolution" (Hargadon, 2008). With the capability to let participants not just read the Web but meaningfully contribute to its content, Web 2.0 tools such as blogs, wikis, video, and podcasting turn students from passive participants to active contributors. Other Calaxy services intended for teacher and student use include image and document storage, retrieval, and sharing. These content sharing services are moderated by contributors and administrators for appropriate content.

The MyTechDesk and Assets features of the Calaxy suite are powerful, web-based systems for managing and tracking school work orders and inventory. These are yet additional K12HSN services provided to all California schools and districts at no cost. Either used as standalone applications or a joint solution, Assets and MyTechDesk have been implemented to allow local school and district sites to efficiently manage inventory from acquisition to obsoles-These management tools let cence. coordinators, administrators, and other school site personnel involved with instructional technology make informed decisions about services provided by the school to integrate and support instructional technology. Using MyTechDesk and Assets date in decision-making processes can lead to greater efficiency of support personnel and lower cost of ownership of inventory instructional technology (K12HSN Calaxy, 2009).

SUMMARY

The K12HSN is poised to become an increasingly vital resource to California K-

12 schools. The diverse nature of partners and collaborators ensure that the K12HSN will stay abreast of innovations and developments in information and communication technologies. Working in conjunction with several other state initiatives, the K12HSN has garnered sustained support for technology to improve teaching and learning. Increasing broadband access, online services, and content under the aegis of the California Department of Education virtually guarantees the availability of K12HSN resources to teachers, administrators, and students who will progressively be turning to online services.

The challenge that lies ahead for the K12HSN is to inform its constituent COEs of its services that many districts and schools may already be supporting financially. Redundancy is beneficial to the quality and integrity of network systems and hardware, especially for systems routinely backed up with a set of secondary and other auxiliary resources. However, redundancy can be anathema to schools and districts expending resources to maintain services that the State of California and the K12HSN is already providing at little to no cost. The K12HSN has professional development and data analysis resources built into almost every online service offered. Whether for administrators, teachers, or school support personnel, the K12HSN offers relevant and valuable services that help schools do what they have to do: manage resources and raise student achievement.

REFERENCES

- California Broadband Task Force. (2008). *Final* report of the California broadband task force. Sacramento, CA: Author. Retrieved March 18, 2009, from http://www.calink.ca.gov /taskforcereport/
- California Brokers of Expertise Project. (2008). California brokers of expertise project—State of education (CA Department of Education). Retrieved March 30, 2009, from http://www .cde.ca.gov/eo/in/se/brokers.asp

- California Department of Education. (2008). K-12 High Speed network (K12HSN)—State technology programs (CA Department of Education). Retrieved April 2, 2009, from http://www.cde.ca.gov/ls/et/st /highspeednetwork.asp
- California Educational Technology Professionals Association (CETPA). (2009). *CETPA: Our vision statement*. Retrieved April 2, 2009, from http://www.cetpa-k12.org/about/.
- California K-12 High Speed Network. (2009c). DNA—California K-12 High Speed Network. Retrieved March 3, 2009, from http:// www.k12hsn.org/resources/directory/ dna.php
- California Learning Resource Network. (2009). About the California learning resource network. Retrieved March 10, 2009, from http://clrn .org/home/about.cfm.
- Corporation for Education Network Initiatives in California. (2009). President's message: Looking back on Long Beach and the CENIC Annual Conference. *CENICtoday*, 12(3). Retrieved April 1, 2009, from http://www .cenic.org/publications/cenictoday/ Mar09 CT.html
- Corporation for Education Initiatives in California. (2009a). *About CENIC*. Retrieved March 19, 2009, from http://www.cenic.org/about/ index.html.
- Cradler, J., Beuthel, B., Cradler, R., & Barline, R. (2009). *California learning resource network:* 2007-2008 Evaluation report. Retrieved March 18, 2009, from http://clrn.org/advisory/2008_ May/CLRN_2008_Report_v13.pdf
- EdTech Profile. (2009). *EdTech Profile FAQ*. Retrieved March 29, 2009, from http:// edtechprofile.net/faq.php

- Hargadon, S. (2008, March 4). *Web 2.0 is the future of education*. Message posted to http://www.stevehargadon.com/2008/03/web-20-is-future-of-education.html
- Higgins, C. (2009). What's so powerful about Web 2.0? *Principal Leadership*, 9(7), 60-64.
- Internet 2. (2009). *About us*. Retrieved March 30, 2009, from: http://www.internet2.edu/about/
- Imperial County office of Education. (2009). K12HSN: California K-12 high speed network. Retrieved March 20, 2009, from http:// www.icoe.org/technology/projectspartnerships/k12hsn
- K12HSN Calaxy. (2009). *Calaxy assets*. Retrieved March 30, 2009, from http://www.k12hsn .org/calaxy/assets/
- Nicholas, H., & Ng, W. (2009). Engaging secondary school students in extended and open learning supported by online technologies. *Journal of Research on Technology in Education*, 41(3), 305-328.
- North American Council for Online Learning. (2007, November). Access and equity in online classes and virtual schools. (Issue Brief). Retrieved March 28, 2009, from http://www .inacol.org/docs/NACOL_EquityAccess.pdf
- State Educational Technology Directors Association. (2008). *High-speed broadband access for all kids: Breaking through the barriers* (Issue Brief). Retrieved March 28, 2009, from http:// www.setda.org/
- Windhausen, J. (2008). A blueprint for big broadband: An EDUCAUSE white paper (White paper). (ERIC Document Reproduction Service No. ED 499917)

INTITUME EVERTIFICATION HAD ACCESS TO THE BEST CONTENTS

Polycom brings students, teachers and subjects together anywhere. Open up your classroom to an amazing world of content and cultures with the only end-to-end collaborative education solutions – Polycom, Inc.

Through interactive learning, an instructor can motivate and expose participants to people, places and experiences without the traditional restrictions of time limitations or geographical barriers. Polycom's collaboration solutions are designed for educators by educators, providing a more human experience to collaborative communications enabling people to communicate and share ideas easily and intuitively through advance voice, video and data conferencing solutions – with video clarity you can see, audio quality you can hear and ease-of-use you can feel. For more information, to obtain Grant Assistance and to access the most extensive video conferencing content database and collaboration directory visit www.polycom.com/education to experience how high definition solutions can add quality and capabilities to your applications.



USDLA Award Winners

The United States Distance Learning Association (USDLA) presented its 2009 International Distance Learning Awards in conjunction with the 2009 National Conference in St. Louis, Missouri. Since 1987, USDLA has been the world's premier distance learning association. The USDLA International Awards program honored outstanding individuals and organizations for excellence in the field distance learning, education and training.

These prestigious international awards are presented annually to organizations and individuals engaged in the development and delivery of distance learning programs. Included in the recognition ceremony were awards for 21st Century Best Practice, Best Practice for Distance Learning Programming, Excellence in Distance Learning Teaching, Outstanding Leadership by an Individual, Hall of Fame and Eagle Awards.

The USDLA International Awards are closely followed by the distance learning industry. "As a premier organization for the entire distance learning profession, we enjoy honoring some of the leaders in the industry," said Dr. John G. Flores, chief executive officer of USDLA. "Each year these winners raise the bar and exceed best practice expectations for the industry as a whole and we are truly honored by their contributions to the distance learning industry."

The USDLA Awards were created to acknowledge major accomplishments in distance learning and to highlight those distance learning instructors, programs, and professionals who have achieved and demonstrated extraordinary results through the use of online, videoconferencing, satellite and blended learning delivery technologies. "Congratulations to each and every one of this year's award winners. USDLA takes great pride and responsibility in recognizing excellence and quality that benefit the entire industry. The innovative spirit and leadership of these organizations will take our industry to new levels," said Julie Young, president of USDLA and president/ CEO of Florida Virtual School (FLVS).

For the 2009 international awards program, USDLA focused on several major areas that exemplify the dynamic nature of distance learning. Please join us in honoring the following 2009 USDLA award winners, which include the following:

BEST PRACTICES AWARDS FOR DISTANCE LEARNING PROGRAMMING

PLATINUM

Quantum Simulations, Inc. Online Technology ~ Pre K-12

Cosi Columbus Electronic Education Program Videoconferencing ~ Pre K-12

GOLD

Booz Allen Hamilton—Smithsonian's National Museum of Natural History Online Technology ~ Corporate/Institutional

> Kamehameha Schools Distance Learning Program Online Technology ~ Pre K-12

Louis H. Schilt Memorial Scholarship, Sessions Online Schools of Art and Design Online Technology ~ Higher Education

Effective Engaging e-Learning Environment for Tennessee (E4TN) Online Technology ~ Pre K-12

SILVER

United States Institute of Peace Online Technology ~ Government

The Colonial Williamsburg Foundation Online Technology ~ PreK-12

BRONZE

THE Centernet 2 Project-Center for Rural Development, Somerset, Kentucky

> Videoconferencing ~ Pre K-12/ Higher Education

UNCG Division of Continual Learning Online Development Team Online Technology ~ Higher Education

BEST PRACTICES AWARDS FOR EXCELLENCE IN DISTANCE LEARNING TEACHING

PLATINUM

Floyd Gary Walton, "Mr. G," Becon Distance Learning Teacher Videoconferencing ~ Pre K-12

Dr. Janice W. Butler, University of Texas at Brownsville Online Technology ~ Higher Education

GOLD

Gina M. Thames, University of Texas at Arlington Online Technology ~ Higher Education

Jim Ellis, Lamar State College Online Technology ~ Higher Education

SILVER

Bonnie Dorman, Lamar State College Online Technology ~ Higher Education

BRONZE

Goutam Chakraborty, Oklahoma State University Online Technology ~ Higher Education

MU 400 – Graduate Theory Review Dr. John H. Wallace, Boston University Online Technology ~ Higher Education Frances Vandenheuvel—ODE Instructor Videoconferencing ~ Pre K – 12

OUTSTANDING LEADERSHIP BY AN INDIVIDUAL IN THE FIELD OF DISTANCE LEARNING

Dr. Sanjeev Arora, Professor and Executive Vice-Chair of the Department of Medicine, University of New Mexico School of Medicine Videoconferencing ~ Higher Education/ Telehealth

Governor Beverly Perdue Online Technology ~ Pre K-12/Higher Ed/Gov.

Christine Beischel, PhD, Dean of the College of Distributed Learning, Bellevue University Online Technology ~ Higher Education

21st Century Awards for Best Practices in Distance Learning

Navy eLearning Online Technology ~ Government

Desire2Learn Incorporated Online Technology ~ Pre K-12/Higher Ed./ Corp.

University of Wisconsin-Madison Master of Engineering in Engine Systems Online Technology ~ Higher Education

> Florida Virtual School (FLVS) Online Technology ~ Pre K-12

Center for International Virtual Schooling (C4IVS) Online Technology ~ Pre K – 12

Kryterion, Inc. Online Technology ~ Pre K-12/ Higher Ed./Corp.

Arizona Telemedicine Program Videoconferencing ~ Higher Education

Effective Engaging e-Learning Environment for Tennessee (E4TN) Online Technology ~ Pre K – 12

USDLA 2009 HALL OF FAME

Dr. Darcy W. Hardy, Assistant Vice Chancellor for Academic Affairs and Executive Director, UT TeleCampus, University of Texas System was selected by the USDLA board of directors for elevation to the USDLA Hall of Fame.

USDLA 2009 EAGLE AWARD

The Eagle Award is presented to a nationally recognized public official that has demonstrated unique leadership in the public policy arena and has a long-standing record of educational technology support as well as the support of the USDLA mission, which includes serving the needs of the distance learning community by providing advocacy, information, networking and opportunity. This year USDLA recognized North Carolina Governor Beverly Perdue for her commitment to providing greater educational opportunities within her state.

Mr. Reggie Smith III, USDLA board member and chair of the awards committee, noted that, "Once again this year's award winners represent many of the most innovative leaders in the field of distance learning." He continued, "We look forward to seeing how these leaders will inspire the 2010 award entries as they are recognized in *Distance Learning Today* to 3.5 million readers and via their participation in National Distance Learning Week (http:// www.ndlw.org), November 9-13, 2009."

ABOUT UNITED STATES DISTANCE LEARNING ASSOCIATION (USDLA)

The United States Distance Learning Association (USDLA) is a nonprofit association formed in 1987 and is located in Boston, Massachusetts. USDLA promotes the development and application of distance learning for education and training and serves the needs of the distance learning community by providing advocacy, information, networking and opportunity. Distance learning and training constituencies served include pre K-12 education, higher and continuing education, home schooling as well as business, corporate, military, government and telehealth markets. The USDLA trademarked logo is the recognized worldwide symbol of dedicated professionals committed to the distance learning industry. http://www.usdla.org

Connect with the World of Distance Learning... Join USDLA Today!

800.275.5162 www.usdla.org information@usdla.org

UNITED STATES DISTANCE LEARNING ASSOCIATION 8 Winter Street, Suite 508 • Boston, MA • 02108 • USA

Differentiating Instruction in Online Environments

Natalie B. Milman

Those who teach in online environments have many resources available to help them design effective online instruction ranging from first-hand accounts of teaching online (e.g., see Sugar, 2007), to recommended principles for evaluating effective online instruction (Graham, Cagiltay, Lim, Craner, & Duffy, 2001), to research that demonstrates



Natalie B. Milman, Associate Professor, The George Washington University, 2134 G ST NW, Washington, DC 20052. Telephone: (202) 994-1884. E-mail: nmilman@gwu.edu

the importance of building a collaborative online learning community (Tu & Corry, 2003), among many other resources found in print (such as this journal!) and online, as well as through attendance at conferences. Even so, one strategy that has not been explored or discussed much in the distance education literature that may be very helpful to instructors for designing effective instruction is differentiated instruction. This article describes what differentiated instruction is and provides examples of how it may be implemented in an online course.

WHAT IS DIFFERENTIATED INSTRUCTION?

Although many educators at all levels have implemented differentiated instruction practices in one way or another for countless years, Ward (1986) first coined the term "differential education" to describe instruction for gifted and talented students (Bravmann, 2004). Tomlinson has since advocated this approach, not only for gifted education, but most prolifically for the general P-12 education classroom. Tomlinson (2003) defines differentiated instruction as the planning, design, implementation, and evaluation of "varied approaches to what students need to learn, how they will learn it, and/or how they can express what they have learned in order to increase the likelihood that each student will learn as much as he or she can as efficiently as possible" (p. 151). Differentiated instruction is not watering down curriculum to make it easier for some students to "pass" or more challenging for others to master the content; rather, it involves providing students opportunities to learn content using different resources, employing varied strategies, and/or allowing students to demonstrate their learning in different ways based on their individual learning needs and interests.

According to Tomlinson (1999), instructors differentiate instruction by varying the:

- 1. Content: Instructors differentiate the resources and sources students use to learn by using multiple resources and examples in various media formats;
- 2. Process: Instructors differentiate how students will learn by planning and/or structuring various learning activities and student groupings; and
- 3. Product: Instructors differentiate the output (how students demonstrate what they have learned) by providing different options for completing assignments.

Instructors should also vary the content, process, and product based on their students' learning profile (i.e., learning style), interest (motivation), and/or readiness (background knowledge). Therefore, it is important for instructors to get to know their students, but also to pre-assess what they already know about a topic.

Key principles of a differentiated class are:

- The teacher is clear about what matters in subject matter.
- The teacher understands, appreciates, and builds upon student differences.

- Assessment and instruction are inseparable.
- The teacher adjusts content, process, and product in response to student readiness, interests, and learning profile.
- All students participate in respectful work.
- Students and teachers are collaborators in learning.
- Goals of a differentiated classroom are maximum growth and individual success.
- Flexibility is the hallmark of a differentiated classroom (Tomlinson, 1999, p. 48).

How can Differentiated Instruction be Implemented in an Online Environment?

There are many diverse ways in which one might differentiate the content, process, and product of instruction in an online environment. It is important to note, however, that just like teaching in face-to-face environments, teaching using a differentiated instruction approach can be challenging, especially when attention to the instructional design process is lacking. Yet, with careful instructional design and consideration of learners' interests, readiness, and learning profile, instructors will likely learn that differentiating instruction is a rewarding teaching approach. Moreover, instructors should recognize that differentiating instruction does not involve differentiating every aspect of instruction. Rather, it can involve differentiating only the content or only the product required for students to demonstrate their learning. Offering students a choice is also a significant feature of differentiated instruction. Below are some ideas for differentiating instruction in an online environment; many instructors will find that they are already employing various aspects of differentiated instruction in their online instruction:

- Differentiating content: An instructor might differentiate content by providing the content in different formats. For instance, an instructor might provide a lecture in PDF and as a podcast. This allows students to access the content based on their learning profile (e.g., are they visual or auditory learners?). Also, the instructor might provide some sources for reinforcement to help students struggling with the content by including a vidcast of key vocabulary or concepts, as well as a screencast highlighting some key concepts in a lecture. Instructors can differentiate for learners interested in learning even more about the topic by providing links to online materials that challenge them to delve deeper into the content.
- Differentiating process: An instructor might differentiate the process by providing different learning activities for learning the content. For example, an instructor might encourage students to complete questions in a text, examine a short case scenario, or work collaboratively in small groups or individually to solve a problem. The point here is that not all students will engage in the same activity. Instead, they will likely have a choice or be assigned different assignments based on their interest, learning profile, or readiness. Students who have work experience or background knowledge on a topic might be steered towards completing advanced activities, whereas "newbies" to a topic may be asked to complete activities that provide solid, foundational knowledge of the content.
- Differentiating product: One way an instructor can differentiate the product, or "output," is by giving students several choices from which to choose for completing summative assignments. Rather than requiring that all students

complete a traditional research paper, an instructor might allow students to choose from the following assignments: writing a traditional research paper, developing a wiki research "report," creating a website, or producing a video all on the same topic/content and using the same grading rubric for evaluation. Although it is very easy to offer students differentiated opportunities for demonstrating their learning, it is very important that instructors develop clear guidelines and grading criteria prior to requiring any specific products.

REFERENCES

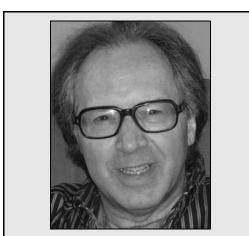
- Bravmann, S. (2004). Two, four, six, eight, let's all differentiate differential education: Yesterday, today, and tomorrow. Retrieved September 9, 2009, from http://www.newhorizons.org/ strategies/differentiated/bravmann.htm
- Graham, C., Cagiltay, K., Lim, B. -R., Craner, J., & Duffy, T. D. (2001). Seven principles of effective teaching: A practical lens for evaluating online courses. *The Technology Source*. Retrieved September 9, 2009, from from http://technologysource.org/article/ seven_principles_of_effective_teaching/
- Sugar, W. (2007). One professor's face-to-face teaching strategies while becoming an online instructor. *Quarterly Review of Distance Education*, 8(4), 365-385.
- Tomlinson, C. (1999). *The differentiated classroom: Responding to the needs of all learners*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Tomlinson, C. (2003). Fulfilling the promise of the differentiated classroom: Strategies and tools for responsive teaching. Alexandria, VA: Association for Supervision and Curriculum Development.
- Tu, C. -H., & Corry, M. (2003). Building active online interaction via a collaborative learning community. *Computers in the Schools*, 20(3), 51-59.
- Ward, V. S. (1986). Theory in the practice of differential education for the gifted. *Roeper Review*, 8(4) 263-271.

Try This

Student Engagement, Motivation, and Rapport

Errol Craig Sull

hey are, in this column and others, in articles and essays, in books and journals, in webinars and workshops, in listservs and blogs, nearly every nitty-gritty piece of advice one can think of relating to being a better distance educator. Yet, as helpful as these are—each will strengthen just a tad more your quality and skills in teaching online—all amount



Errol Craig Sull, Online Instructor, P.O. Box 956, Buffalo, NY 14207. Telephone: (716) 871-1900. E-mail: erroldistancelearning@gmail.com

to nothing if you don't own the three most crucial components of distance education: solid and continual student engagement, a successful ability to motive and enthuse your students, and a strong and growing student-instructor rapport. These three basics form the foundation of any distance learning course, and if any is weak or missing, chances are very strong your students' online learning experience will be tepid.

What follows is a mini-guide to mastering this triptych of distance learning; I have selected those I think are most salient to each category, but this does not mean nothing else can be added. Depending on your student demographic, subject taught, and other facts, you may find additional items you think equally important (in fact, I'd really like to hear from anyone with these—I'll publish them in a future column).

Let me mention two caveats: (1) Any of the suggestions that follow must first be allowed by your school; that is the umbrella of what can/cannot be employed by you, so be sure to check out your school's policies and procedures; (2) A case can easily be made for including some items listed under Engagement also under Motivation, some that are found under Rapport will easily be just as comfortable under Engagement, etc. These are designed this way: incorporate the information below and you will find yourself with a strong, dynamic, exciting, and interesting class—all items that translate into a boffo learning experience for your students!

PART I: ENGAGEMENT

- Your welcoming e-mail sets the tone. Welcome your students with enthusiasm and interest, always letting them know you are available and eager to help any time. This approach will go a long way in making those anxious students feel less anxious and just generally establish a warm, inviting class atmosphere. And be sure students have your contact info (including your phone number).
- Incorporate possible student anxiety concerns. The more you can anticipate, and thus address, possible student problems and concerns in the course the more relaxed the student, thus resulting in students who are more open—and eager—to becoming an active part of the class. (And, as you come across new concerns students send your way each class, keep a list of these and include them in future first class e-mail or announcement postings.)
- Speak with your students. No matter how often you write (to the class and individual students), there is always a need for one closer step: the sound of your voice. This can be very reassuring, very motivating, often beyond what you can say in writing. And remind your students of your willingness to speak with them throughout the course: if it's a onetime thing at the beginning of the class, students can either forget it's an option or—worse—think you really didn't mean it. What is also helpful: MP3 (audio) weekly greetings to students and/or individual commentaries.

- Have resource and contact info at the ready. Students need to see you are prepared and thorough; when they do, trust in you is established and maintained. So, for those times when there is a tech or support question beyond your knowledge but one the tech department, your supervisor, or some other administrator will probably be able to answer, have those folks' e-mails, positions, phone numbers, and best time to reach on one sheet that you can pull up when needed.
- Stress the positives of online courses. This is a big plus in helping students feel more comfortable in your course. Often, students are so focused on what they are concerned about in taking an online course that they forget—or may not even know—all the terrific benefits online education offers. I have a separate posting at the start of each class that begins, "Welcome to the exciting, interesting, and bonus-filled world of online education!"
- Choose your vocabulary and tone carefully. It makes no difference what subject you are teaching, the #1 rule of any writing remains you write for the reader. Thus, your vocabulary used in postings throughout the course should be selected with your student population in mind; not being aware of this can confuse or annoy students. And your tone must be inviting, interested, caring, sincere—yet always professional: the best axiom to follow in online teaching is be friendly but never be a friend.
- The look of your postings gives off signals about you. Use of red, all caps, bold effect, too informal or too stark font styles, and too large or too small font size can send the wrong message to students. It's fine to be creative in your comments to students, so make your creativity one that says. "Hey—I'm an okay person," not one that warns, "Stay away from me!"

• Be sure all technical, layout, and organizational portions of your class are working/are correct. Check out these areas before your class begins—students have a rightful expectation that all links will work, all readings are accessible and the page numbers are correct, and that all makes sense. When they do, students feel comfortable in your class, akin to plopping down in an overstuffed chair.

PART II: MOTIVATION

- Prior to starting your course, gather as many examples as possible of how daily life is affected by your subject and with which your students can relate. You will know of many because it is your field. But also go beyond what you know, and especially look into areas of life in which your students may be involved. This allows you and your course to reach into your students' lives, and thus helps make your course important and alive.
- Immediately get your students involved by asking them to send you examples or situations in which their lives or others' lives were or could be affected by the subject. This activity helps with student ownership of the course material, which is so important in learning. First, they are telling you what it will be impossible for you to know: how each student can relate the best to your subject; second, by doing this each student has created just a bit more ownership in the course.
- Send the students fillers from various subject-related journals, websites, newsletters, etc. to add some fizz to their interest. We've all seen them, taking up just a few lines or a paragraph. They hold our attention for a bit and then we move on, but these "lite bites" of subject-related material are refreshing. Collect them, and throughout the course send these to your students. It's

just another way of showing the not-solofty side of what otherwise is a very serious subject ... and it also teaches by reinforcing your subject matter.

- Offer your students a challenge or puzzle that involves the course material. This could be something you found from another source (colleague, book, Internet, etc.) or that you develop. Whatever you choose, it should force your students to take a subject that was not initially connected to them—at least not in a personal sense—and use their own skills, interests, and experience to solve the puzzle or meet the challenge. It becomes fun, the students are learning—and they are motivated.
- Give a "casting call" for all websites, great and small, related to the topic. At least once per course I'll ask my students to send me X number of websites related to a specific aspect of writing (my specialty), to locate websites on writing from other colleges, or to find general websites that focus on improving one's writing. These are made into a master list, then distributed to the students. They truly appreciate this group effort, as it gives them more resources to help with their writing.
- Search out professional chat rooms and websites with folks who teach what you do—and exchange ideas. No doubt you know of at least one of these; ask visitors for their most creative and interesting approaches, activities, and strategies for teaching. You'll be surprised at how willing others are to share ... and how much more information you have and how many more resources you have gained to help enhance your teaching efforts.
- As you come across jokes, anecdotes, and cartoons related to the course material, sprinkle them throughout the length of the course. These are meant to do one thing: give your students a bit of a chuckle. Not only does this allow for a more casual—and sometimes fun—

learning environment, but scattering these about on occasion also humanizes you a bit more (something very important to anyone who teaches online), which helps in motivating students.

• Be ever on the lookout for news items that somehow relate to your class—and share them with your students. Don't merely rest on what has appeared and happened. Be watchful for that which is happening: a piece in today's news, a TV show or movie soon debuting, a major event being planned, and so on if there is any hint of your subject in something like this, point it out to your students. Our world is always changing, and you want your students to know that what they are learning is something very much alive, very much in use today.

PART III: RAPPORT

- Be organized. Staying organized will keep assignments, tests, lectures, and so on, straight; also, make an online file for each of your students to include work assignments, e-mail (that they send and you deem interesting or important), and other items that help you better understand and relate to each of your students. This translates into being able to teach with "ammunition" at hand that allows for a more personal approach for each student, and thus helps establish a stronger rapport with them.
- For all due dates and promises: keep them. Students who take courses online rely exclusively on what they read online in terms of due dates for readings, assignments, quizzes, etc., as well as any promises you make (e.g., "I will have the draft of your first paper returned by X date" or "all Chem 101 grades will be posted on Y date") and virtual office hours. They do not have you in a classroom to remind them of such things, nor are you in a class where

they can ask you for reminders. Thus, it is extremely important you adhere to the dates and promises given: do this and students will know they can depend on you.

- Follow up on all student e-mail and other student correspondence received—and promptly. E-mail and webmail are the students' lifelines that allow for specific questions to be answered, confusions to be cleared up, and uncertainties to be quantified. Respond to all—if only an acknowledgement that you received it—and in a timely manner. This goes a long way in both earning their respect and in your students seeing you as someone who really does care about them.
- Use chat rooms, discussion boards, journals, etc. These allow for spontaneity, for student involvement, for personal commentary by students—all items that make for more ownership of the course on their part. And, by meeting with students in chat rooms and responding to journal entries, they not only get to see a more personal (read: real) side to you, but also can readily see you are sincerely interested in each one of them—so important in establishing a strong teacher-student rapport.
- Send general and individual positive class e-mails throughout the course. I call this my "glue," and I do it so the tone I established in my welcoming e-mail can be maintained throughout the semester. These e-mails include compliments on an overall class or individual "well done!" effort on an assignment ... wishing them a happy holiday or semester break ... offering some additional clarification on an item I find many students or a student are/is having difficulty with ... a change in an initial due date, clarification on an assignment, or an attachment of an additional reading. Combined, these postings serve as an on-going positive

connection to your students, strengthening the student-instructor rapport.

• Offer website assistance, additional handouts, etc. When I find various websites that I think will help a student better understand a concept, idea, or rule, I'll send it along; I also have made up many dozens of what I call Pebbles and Mini-Pebbles to help explain various aspects of writing. These are what I call my "teacher's aides," and I send them throughout the semester. This translates

into better and more focused information for the students, a stronger bond between myself and the students, and in the end—students who produce better quality work.

REMEMBER: The Eiffel Tower, the Statue of Liberty, the Taj Mahal, the Parthehon, the Great Sphinx, the Vatican—all different in looks yet all surviving for years because each rests on and is built around a solid foundation.

PART I: ENGAGEMENT PART II: MOTIVATION PART III: RAPPORT. that colleges "should proudly—and without apology—offer online courses:

- 1. We want our students to be actively engaged in learning.
- 2. We want to reach students with diverse learning styles.
- 3. We want our students to have a variety of experiences outside the classroom.
- 4. We want to teach our students how to do independent research.
- 5. We want to make college more accessible to students.
- 6. We want to make attending college more affordable.
- 7. We want to teach our students values and ethics.
- 8. We want our students' degrees to be valued by employers.

Once an educational institution is convinced that online education is effective, worthwhile, and mission-oriented, then the eight steps for transforming the organization come into play. These eight steps are:

- 1. Establish a sense of urgency.
- 2. Form a powerful planning group.
- 3. Create a vision.
- 4. Communicate the vision.
- 5. Give power to those who act on the vision.
- 6. Plan for and create short-term wins.
- 7. Collect successes.

8. Incorporate successes (Simonson, 2005).

Certainly if an educational organization is to adopt—even value—distance education, then much more than procedural steps and processes are needed. However, it is interesting to observe that recently the discussions about distance education, virtual schools, and online learning have moved from publications of the distance education field to the more widely read and more generally influential periodicals of education and training, another indication that distance education is now mainstream.

And finally, the literature now contains eight reasons for offering online courses, and an eight step process for transforming an organization. Perhaps someone will propose an eight step process demonstrating the effectiveness and return on investment of distance education.

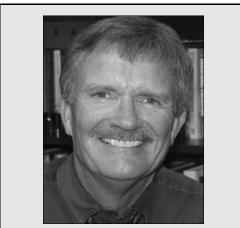
REFERENCES

- Brooks, M. (2009, May 29). The excellent inevitability of online courses. *The Chronicle of Higher Education*, A64.
- Rogers, E. M. (2005). *Diffusion of innovations* (5th ed.) New York: Free Press.
- Simonson, M. (2005). Distance education: Eight steps for transforming your organization. *Quarterly Review of Distance Education*, 6(2) vii-viii.

Inevitable? Do You Really Think So?

Michael Simonson

recent column in *The Chronicle of Higher Education* (May 29, 2009) by Margaret Brooks, a professor at Bridgewater State College, had the wonderfully intriguing title, "The Excellent Inevitability of Online Courses." Brooks presented an interesting review of why colleges should offer online courses. The eight reasons included in the article make great companions to the column in the



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

Quarterly Review of Distance Education titled, "Eight Steps for Transforming Your Organization" (Simonson, 2005). The two articles provide important reading for educational leaders who are contemplating the move into distance education. The first article gives eight reasons why, and the second gives eight steps how.

Brooks categorizes three types of persons when it comes to opinions about online courses. First are the traditionalists who see online education as something less than optimum, to be tolerated and, with any luck, done by others. Supporters, on the other hand, are those who advocate and state that online instruction benefits students and is equivalent to traditional instruction. Finally, there is the third group; those who see the overall integration of technology into society that is driving the popularity of online instruction. Certainly these categories of individuals, university-types, are easily recognized on any campus, and warrant study to find out why some gravitate to one category rather than another. Rogers' work on the diffusion of innovations (2005) would be a great place to start, especially the sections dealing with categories of innovation adopters. But, Brooks goes on to list the eight reasons

... continues on page 95

ISSN: 1547-4712 Distance Learning IAP-Information Age Publishing P.O. Box 79049 Charlotte, NC 28271-7047 www.infoagepub.com