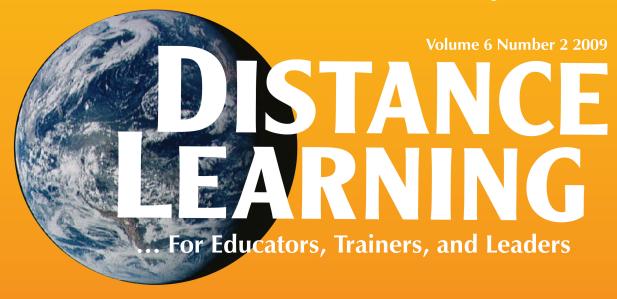
An Official Publication of the United States Distance Learning Association



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**Virtual Schools** 

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- ▲ Discretion in a Distance Learning Environment: Ethical Considerations in a Virtual Classroom
- ▲ The Potential of Asynchronous Video in Online Education
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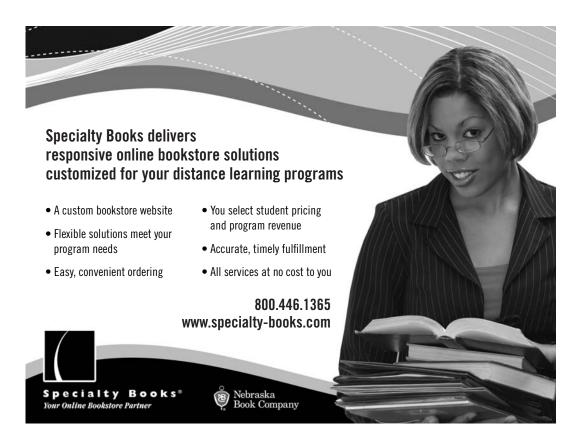
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#### SPOTLIGHT ARTICLE

# Virtual Schools

## What Every Superintendent Needs to Know

#### Zane Berge and Tom Clark

In the future, the issues will be centered on how to use the innovation of online learning to solve the bigger problems in K–12 education: how to offer a world-class education for every student, how to improve teaching and course quality, how to move to performance- and competency-based models of learning, how to ensure every student is college-ready, and how to scale the delivery model for all students. (Patrick, 2008, p. 28)

ver the past decade, the number of virtual schools has increased dramatically. Additionally, access

to full-time, online, and K-12 online learning opportunities have expanded, especially for elementary and middle grades. Watson (2008) found that 44 of the 50 states reported online learning opportunities for K-12 students, and more than half of these 44 reported K-8 options. As little as 5 years ago, supplemental high school courses were the primary type of K-12 online learning, in terms of course enrollments. In 2008, a total of 21 states reported full-time, public virtual schools, usually charter schools. Enrollments have grown rapidly as well. Picciano and Seaman (2009) esti-



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mated over one million enrollments in K-12 online courses in 2008. Watson (2008) estimated 450,000 course enrollments in K-8 virtual schools alone, based on full-time enrollment numbers.

A virtual school refers to any K-12, online learning program offered by an educational organization in which students can earn credit toward graduation or toward promotion to the next grade. Online learning here means educational courses delivered through the Internet or using Webbased methods either in real-time (synchronously) or asynchronously. The terms virtual school and K-12 online learning program are used synonymously in this article.

# CHARACTERISTICS AND PURPOSES OF VIRTUAL SCHOOLS

Virtual schools have various characteristics, all of which have implications for funding, policymaking, and practice. For instance, virtual schools may offer full-time or supplemental learning opportunities, or both. They may be set up to serve students within a school or district, a region, statewide, or nationally. They may use rolling enrollment or fixed calendar schedules. Virtual schools may use synchronous or asynchronous instructional methods, or a combination of these delivery systems. Online learning programs can also be classified based on operational control, such as state-led, university, charter, consortia, private, or district programs. Virtual schools can be developed locally or outsourced to various vendors.

Newman, Stein, and Trask (2003) propose four broad components of a virtual school: technology, curriculum, instruction, and administration. Essential aspects of these components include an online learning management system (LMS), course content and instructional services delivered via this LMS, and administrative functions such as supervision and evaluation.

#### **PURPOSES OF VIRTUAL SCHOOLS**

Virtual schools may serve many different purposes. According to Watson (2008), a virtual school can:

- Increase the range of courses/programs that any single school can offer students, including international baccalaureate (IB) and advanced placement (AP), and college courses. This is especially true for small and rural schools;
- Offer flexibility and improved use of time to students who have scheduling conflicts, are at-risk, are home schooled, have dropped out of school, are homebound, or others with unique circumstances, such as athletes;
- Help meet the goal of teaching twentyfirst century technology literacy skills across the curriculum; and
- Provide qualified teachers in subject areas where highly qualified teachers are lacking.

Another key reason for offering a virtual school is to expand school choice. Under No Child Left Behind, K-12 online learning may be offered as a Supplemental Educational Services option or as an alternative public school option. States also promote virtual schools as a choice. A total of 40 states and the District of Columbia permit charter schools (U. S. Department of Education, 2007), and many of these states permit virtual charter schools as an option. Many of these characteristics vary by state. In Florida, HB 2067 mandated in-district provision of a K through 12 online learning program by all public school districts as an option.

Still, parents, educators, and policymakers often ask serious questions such as why should we consider a virtual school? What is the demand for such offerings? Are virtual schools worth the effort and costs involved? What impact does K–12 online learning programs have on student achievement? Should online educational programs be used as a supplement to in-

person classes, or for full programs of study? What are the effective models of virtual schools and how can they be sustained? While these are valid issues worthy of discussion, the public dialogue tends to focus on preconceptions that people have about the nature of K-12 online learning. Watson (2008) identifies three common misunderstandings:

- Online learning is "teacher-less." In reality, online learners in a public school program must be taught by a certified teacher. Good online teachers have regular interaction with their students, provide constructive feedback, and stay in touch with parents. Effective virtual schools provide training, mentoring, and monitoring to encourage such practices.
- Online courses are easy. Many students and schools expect online course to be easy, which contributes to high initial dropout rates and mis-assignment to courses. Online public school courses must be aligned to state standards, and many have challenging content. The sheer volume of work, if not performed at a steady pace, can overwhelm students who lack the necessary time management skills. Many students do better with external pacing and encouragement.
- Online students are shortchanged on socialization. This is especially a concern expressed about those studying at home in a full-time, online program. However, these students often participate in extracurricular activities sponsored by their district of residence. The virtual school arranges field trips and social events, and parents form their own networks. It is impossible to conclusively prove or disprove such socialization concerns.

As the title of this article suggests, our focus here is on what superintendents need to know. Since the superintendent is the chief administrative officer of a K-12

school district, the thrust of this article involves *district-level*, *virtual schools*. It is concerned both with policy issues and the practical issues involved with teaching and learning within their jurisdiction. Parents, students, and teachers have important questions when contemplating virtual schools. However, the scope of this article is limited to discussions of selected issues from the perspective of district-level administrators and managers of virtual schools.

# FINANCING THE LOCAL VIRTUAL SCHOOL—COSTS AND FUNDING

It is typical for a school district to use multiple online learning course providers, such as state-led virtual schools, postsecondary institutions, and the district itself (Picciano & Seaman, 2009). Course providers differ in their costs. Generally speaking, funding for virtual schools varies from state to state. There has been some money from grants and foundations, but mostly funding depends upon who is providing the courses. States have five primary options for funding virtual schools: (1) state appropriation, (2) a funding formula tied to full-time equivalent (FTE) public school funding, (3) course fees, (4) no state role, or (5) a combination approach. Charter virtual schools are usually funded like any other charter school in the state. Similarly, district-level online virtual schools are usually funded by the public school financing provided to the district, often based on the number of students attending the district schools. Despite the perceptions of policymakers that virtual schools are less costly, the costs of different types of virtual schools vary, and overall are similar to those of brick-and-mortar schools. However, full-time virtual schools are more costly (Augenblick, Palich, & Associates, 2006).

Watson (2008) points out that two important aspects of funding virtual schools in a state have to do with whether

state law allows students to choose online courses or not, and whether the state funding for virtual school students is at a level similar to traditional schools. The virtual schools showing the most growth in full-time programs are in states where the money follows the student, and the student has a choice of a school in any district in the state. So, essentially, state legislatures determine through their policies the funding, the growth rate, and what choices students and parents have within the state's virtual schools.

For any group of district-level administrators considering virtual programs, a big set of financial issues surround the question of *where* virtual schooling will take place. For example, who will pay for computers and supporting technologies? Who will maintain that technology? Who will supervise online students, especially if virtual schooling takes place in the brick and mortar school?

# STANDARDS AND QUALITY WITHIN THE VIRTUAL SCHOOL

As virtual schools and online learning in K-12 have expanded, efforts have begun to develop standards for the field in the areas of online courses and teaching. Over the past 3-4 years, several organizations have distributed sets of standards based on best practices in K-12 online education. These standards can be used by districts to examine the quality of online courses and instruction whether the component is provided by a vendor or by the district itself.

#### **QUALITY ONLINE COURSES**

Several well-known organizations have published standards to help local educational agencies judge the quality of virtual schools. For example, in 2006, the National Educational Association (NEA, 2006) published the *Guide to Online High School* 

Courses, which addressed important issues when developing, managing, and participating in virtual schools.

The Southern Regional Education Board (SREB, 2006) published the *Standards* for Quality Online Courses to examine what a quality online course consists of and to specific standards for course content, instructional design, student assessment, technology, and course evaluation and management stating:

Several issues should be factored into setting appropriate standards for quality online courses. The courses must include rigorous content that is aligned with the state's academic standards and that enables teachers to adjust the scope and sequence of instruction to meet students' academic and learning needs. Ease of use is also important so students can focus on the content of the course and not be unnecessarily distracted by extraneous information or graphic displays. In keeping with what is known about the importance of interaction between students and their teacher and among students, the courses should provide as many options as possible to facilitate interaction. Assessments—both student self-assessments and teacher assessments of student progress-should be built into each course. (p. 2)

Subsequently, the North American Council for Online Learning (NACOL, 2008) published the *National Standards of Quality for Online Courses*. After conducting a comprehensive review of course standards, NACOL used the SREB *Standards for Quality Online Courses* (SREB, 2006), added a standard for twenty-first century skills, and adapted these as the national standards.

Without reproducing the NACOL *Standards* here, the following are selected items to give the reader an idea of the scope of the standards:

#### Content

- The course goals and objectives are measurable and clearly state what the participants will know or be able to do at the end of the course.
- Information literacy and communication skills are incorporated and taught as an integral part of the curriculum.

#### Instructional Design

- Course design reflects a clear understanding of student needs, and incorporates varied ways to learn and multiple levels of mastery of the curriculum.
- The course provides opportunities for students to engage in higher-order thinking, critical-reasoning activities and thinking in increasingly complex ways.

#### Student Assessment

- Student evaluation strategies are consistent with course goals and objectives, representative of the scope of the course and clearly stated.
- Assessment strategies and tools make the student continuously aware of his/ her progress in class and mastery of the content beyond letter grades.

#### Technology

- The course makes maximum use of the capabilities of the online medium and makes resources available by alternative means; e.g., video, CDs and podcasts.
- The course meets universal design principles, Section 508 standards and World Wide Web Consortium (W3C) guidelines to ensure access for all students.

#### Course Evaluation and Management

• The results of peer review and student evaluations of courses are available.

 The teacher meets the professional teaching standard established by a state licensing agency or the teacher has academic credentials in the field in which he or she is teaching and has been trained to teach online and to use the course.

#### Twenty-First Century Skills

 The course intentionally emphasizes twenty-first century skills in the course, including using twenty-first century skills in the core subjects, twenty-first century content, learning and thinking skills, information and communication technology (ICT) literacy, self-directed learning, global awareness, and includes twenty-first century assessments, as identified by the Partnership for 21st Century Skills.

#### **QUALITY TEACHING**

There are some unique aspects of teaching online. The most unique may be that teachers and students may rarely or never see one another. This requires teaching and learning to be technologically mediated, and heavy reliance on written communication. Another aspect is that courses are often delivered asynchronously-that is, with students and teachers in the course at different times from one another. There are certainly conveniences afforded by anytime and any-place teaching and learning, but it can lead to problems for some students, especially those with poor timemanagement skills or who procrastinate. Also, students learn at differing rates and need different levels of instructional support at different times throughout their competency-based learning (Patrick, 2008). Online learning is an option for providing such self-paced, student-centered instruction. It can also be used to support groupfocused instruction that is not whole-class instruction, such as online collaboration and team-based learning activities. Teachers and students need strategies to help ensure active participation in a timely manner from each student (Rice & Dawley, 2007; Rice, Dawley, Gasell, & Florez, 2008; SREB, 2003).

As they did with the national standards for online courses, the North American Council for Online Learning conducted a comprehensive literature review for standards involving online teaching. The NACOL National Standards for Quality Online Teaching were published in 2008, which used the SREB Standards for Quality Online Teaching, (SREB, 2006), with minor revisions. As noted in the NACOL publication, NACOL also added two standards from the Ohio Department of Education's Ohio Standards for the Teaching Profession and the Electronic Classroom of Tomorrow's Teacher Evaluation Rubric based on the results of the review.

This set of standards uses a rubric with a rating scale as follows:

- 0 Absent—component is missing
- 1 Unsatisfactory—needs significant improvement
- 2 Somewhat satisfactory—needs targeted improvements
- 3 Satisfactory—discretionary improvement needed
- 4 Very satisfactory—no improvement needed

The 13 categories below have several items in each to score using the rubric above.

- 1. The teacher meets the professional teaching standards established by a state-licensing agency or the teacher has academic credentials in the field in which he or she is teaching.
- 2. The teacher has the prerequisite technology skills to teach online.
- 3. The teacher meets the professional teaching standards established by a

- state-licensing agency or the teacher has academic credentials in the field in which he or she is teaching. The teacher has the prerequisite technology skills to teach online.
- 4. The teacher provides online leadership in a manner that promotes student success through regular feedback, prompt response and clear expectations.
- 5. The teacher models, guides and encourages legal, ethical, safe and healthy behavior related to technology use.
- The teacher has experienced online learning from the perspective of a student.
- 7. The teacher understands and is responsive to students with special needs in the online classroom.
- The teacher demonstrates competencies in creating and implementing
  assessments in online learning environments in ways that assure validity
  and reliability of instruments and procedures.
- 9. The teacher develops and delivers assessments, projects, and assignments that meet standards-based learning goals and assesses learning progress by measuring student achievement of learning goals.
- 10. The teacher demonstrates competencies in using data and findings from assessments and other data sources to modify instructional methods and content and to guide student learning.
- 11. The teacher demonstrates frequent and effective strategies that enable both teacher and students to complete self- and preassessments.
- 12. The teacher collaborates with colleagues.
- 13. The teacher arranges media and content to help students and teachers transfer knowledge most effectively in the online environment.

# BUILDING A DISTRICT VIRTUAL SCHOOL

For-profit and non-profit vendors provide the full range of solutions regarding virtual schools. District-level administrators making "build or buy" decisions can often buy the services needed while supplying internally those components of the virtual school they are capable of at a given time a learning management system (LMS), content, instruction, or management. LMS providers provide the online learning platform on which courses are housed. Content providers sell online learning objects or complete courses for those who do not want to build their own course content for their virtual schools. They also offer trained teachers, both trained to teach online and certified in their content area. Educational management providers provide instructional supervision and other administrative functions.

A series of questions must often be addressed when deciding whether to build a component for a district virtual school or to outsource it to a vendor. For example, should we have a vendor provide the teachers, or should we provide them? If we provide them, should we have existing teachers add an online course or two to their workload, hire new online teachers, or both? What union and contract issues do these decisions raise, and who needs to be involved in decisions? If we provide the teachers, how will they be trained?

#### PLANNING THE PROGRAM

In Virtual Schools: Planning for Success (Berge & Clark, 2005), we presented a brief road map for decisions a local school would need to make in establishing a local online learning program. These steps also apply at the district level. In some cases, a decision must be made about whether or not to offer a virtual school; in other cases, the decision has already been made at some level and the question is how to best implement the virtual program. In either

case, proactive districts will seek to determine how a K-12 online learning program can best be aligned with school improvement needs, desired outcomes, audiences, and curricula.

Before determining what to build and what to buy from vendors, we suggest that school district administrators create a school district planning group. This group should:

- identify school district improvement needs. For example, a higher graduation rate, or improved test scores;
- consider overall equity goals. For instance, are there student subgroups that are underserved or underperforming that might benefit from a virtual school option;
- identify desired student outcomes, and target student audiences, such as students seeking to make up courses or to graduate early;
- identify appropriate curricula to meet needs. Examples include core curriculum, Advanced Placement, and summer school courses; and
- prioritize needs related to a virtual school.

Many school districts already have much of this information on hand from school improvement processes. After looking at needs, the planning group must consider virtual school options in more depth. It needs to:

- build organizational knowledge of virtual schools;
- assess readiness of key stakeholders for a virtual school option; and
- determine cost/benefit of various options.

#### IMPLEMENTING THE PROGRAM

Once the school is poised for implementation, the district needs to:

- set virtual learning program goals and objectives;
- develop a communication plan and begin building a positive image and stakeholder support;
- establish development teams as needed in key areas, consider appropriate curriculum and instruction models, and create development timelines.

At the same time, the district must consider partners and outsourcing arrangements for all or some virtual school components, including:

- consider the district's capacity and willingness in terms of resources (funding, staffing, equipment, etc.) to build the components of a virtual school program;
- consider and select virtual learning providers and external partnerships to provide components the district will not be building initially; and
- build district technology, curricular, instructional, and administrative capacity as needed, based on build or buy decisions.

#### **EVALUATING THE PROGRAM**

Determining "what is good" or "what works" about a program is what evaluation is all about. Evaluators start with a set of clear questions, the answers to which are what stakeholders often claim to base their decisions about policy, practice and legislation. Unfortunately, different stakeholders may have different definitions of what it means for a program to be "good" or "to work."

In general, evaluation of online programs or courses follows the same principles as evaluation of other educational programs (U. S. Department of Education, 2008). Districts should consider early on how they will know if they are meeting their mission and purposes, which will help them avoid surprises in the future that

could derail the program's success. To help ensure success, school districts need to

- institute performance assessment measures at the beginning of the online learning program.
- continually evaluate the program for improvement and accountability purposes.
- demonstrate and communicate the success of the program to district stakeholders.

#### SUMMARY

Virtual schools continue to grow in numbers across the country and in the scope of offerings. They may be full-time or supplemental in nature and serve all or some grade ranges. Virtual schools are operated by a variety of organizations. The focus here is on the district-level virtual school.

Depending upon the local school district's purposes for the virtual school, there are implications for finance, policy, and practice. Decisions about online programs need to be aligned with standards and quality. In the past few years, several organizations have published standards to help school districts judge the quality of virtual school courses and teaching. It is the responsibility of the local school district to serve the educational needs of their students. Sometimes the most effective and efficient way to serve those student needs is though the opportunities afforded by virtual schools.

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On May 29 the Fischler School of Education and Human Resources held an online meeting dealing with virtual schools. The title of this summit meeting is: Virtual School Summit

The seven hour long sessions presented during the summit are still available online at: virtualschoolsummit.com There is no charge to register and view the summit sessions.

#### Session titles include:

- Keynote-Virtual Schools in Florida and the USA
- Selecting a Virtual Schools Vendor
- Legal and Ethical Issues and Virtual Schools
- Funding the Virtual School
- The Online Teacher
- The Virtual School—Administrator's Experiences
- Virtual Schools; What Administrators Need to Know



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# Discretion in a Distance Learning Environment

### Ethical Considerations in a Virtual Classroom

#### **Robert Carter**

n all facets of life education is used to express one's opinions, thoughts, and to carry on conversations with others. There are many delivery methods for learning. One delivery method that is common is the instruction of material in a live classroom audience. In a live classroom, students are expected to engage in conversation with the instructor and provide feedback throughout the session of the course. The second delivery method that is



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a new and emerging trend in academia is the use of the Internet. Virtual classrooms allow students and instructors to engage in an asynchronous environment that allows students to work at their own pace while enjoying the privacy to enjoy freedom of speech in discussions. The instructor takes on the most important role in developing the coursework materials, syllabus, and the opportunities to allow students to communicate in an effective and efficient manner. Discretion in administering distance education courses is a combination of college policies and decision making on behalf of the instructor. Both the rules and policies of the college and instructor expectations are necessary for the development of a distance education course. This article examines ITT Technical Institute's discretionary policies, how discretion is defined and granted to instructors, and the implications of discretion over ethical considerations in the virtual classroom.

There are many policies and instructor expectations that are required to be met by the online program at ITT Technical Institute. All of these expectations require that the instructor can apply discretion to their development of the course, grading of student assignments, and granting students opportunities for extra credit or submitting late assignments due to demanding situations in their personal lives. Upon the hir-

ing of a distance education instructor, colleges often provide a manual on how to implement classroom instruction, how to improve communication with students, instructions on how to operate their current operating platform, and issues that deal with discretion. Discretion in the distance education realm provides instructors with the ability to make wise decisions on how students' performance will affect them in a current course and in future courses. ITT Technical Institutes policy on discretion provides the basic foundation on announcing to students the requirements for relevant course participation. Although ITT Technical Institute does not explicitly define discretion in administering an online virtual classroom, it is expected that instructors will include a Microsoft Word document outlining academic honesty and its application to the virtual classroom experience, attendance of students that is monitored through the use of the Questa learning platform, grading of submitted assignments, discussion board postings, late policy, feedback, office hours and support, and additional resources to help students succeed in writing assignments and incorporating extra resources. All of these help define expectations for instructors on behalf of ITT Technical Institute as well as help students understand the necessary components to succeed academically and in the future professionally.

Grading of assignments and discussion board postings are the most important components of the distance education environment. ITT Technical Institute's policy on grading assignments requires assignments submitted to be graded within 3 days of receipt. The quick turnaround time allows students to focus on problems that are noted in their submitted assignments and to communicate their problems, questions, and concerns over their grades and progress in the class. It is also required that stu-

dents must turn in assignments the following Sunday during the course week by 11:59 P.M. Eastern Standard Time. Papers submitted 1 week late are subject to a 10% penalty, assignments submitted 2 weeks late are subject to a 20% penalty, and any assignment submitted after 2 weeks will be handled at the discretion of the instructor. Late papers are often caused by the malfunction of computers, personal disruptions in a student's life, and a lack of interest in the virtual classroom. Often there are many situations in which discretion must be applied in the distance learning environment that are not covered by the ITT Tech instructor manual. Discussion board postings are also an integral part of the distance education learning experience. They allow students to engage in conversations about specific topics and to express their opinions and present facts. Students normally are required to submit an initial response to the discussion board question and to respond to two other students. Although this serves as a mandatory rule for conversation, students are normally encouraged to engage in continuous conversation throughout the term of the course.

Although ethical concerns are not covered by the ITT Technical Institute manual, there are issues in which ethical concerns are apparent. Some of these examples include: the attitude of students toward classroom instruction, harassment on discussion board postings, the easy access to third-party sources for references, meeting the needs of the mentally or physically disabled, and the ability of distance educators to base student grades without providing a checklist to determine accuracy. In order to adhere to the rules more closely an instructor must employ rational decision making and apply ethical theories in consideration of a student's grades and progress throughout the course.

# The Potential of Asynchronous Video in Online Education

#### Michael E. Griffiths and Charles R. Graham

#### INTRODUCTION

here are differences in the benefits that are afforded by the two extremes of face-to-face and distance education. University campus courses are based on the assumption that the student community and interaction between learners and an expert teacher in the same physical location is essential to the learning process. In comparison, distance education provides a learner with flexibility, individualized learning, lower costs, and self-determination in the learn-

ing process. Much research has been invested into modern approaches that may be able to harness key benefits from both face-to-face and distance education. One recent breakthrough has come in the use of asynchronous video in online classes at Brigham Young University (BYU). Early results have been promising in finding a way to bridge the gap between the two extremes of education. Using the frameworks of instructor immediacy and social presence, this article presents developments and findings from the study of two



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online classes in the School of Education at BYU, where asynchronous video has been developed as a central method for communication, assignments, and feedback.

#### **IMMEDIACY**

Some of the advantages of a face-to-face setting can be described in terms of the benefits of the close social interaction that exists in a classroom. Close social interaction between teacher and student, which is one important facet of the overall domain of social interaction, is often discussed in terms of instructor immediacy. Immediacy is defined as: "those communication behaviors, some visual others vocal that enhance closeness to and non-verbal interaction with another" (Mebrabrian, 1969, p. 213). Rovai (2000) elaborates that instructor immediacy is the immediate verbal and communications non-verbal smiles, head nods, use of inclusive language, and eye contact that promote increased learning. Cutler (1995) describes immediacy in terms of a reciprocal process in which individuals are more likely to establish trust, seek support, and find satisfaction the more they know more about each other.

#### STUDENT MOTIVATION

Studies including Christophel (1990), and Christensen and Menzel (1998) suggest that improved instructor immediacy affects student motivation, which in turn improves student learning. These studies suggest that immediacy has an indirect rather than a direct impact on student learning, as it is in reality student motivation that directly impacts student learning. It is reasonable to assume that a high level of instructor immediacy would most likely have the lowest level of impact on students with naturally high levels of motivation. Frymier (1993) investigated the interaction of students' motivation to study and instructor immediacy in a traditional faceto-face learning environment. Her research concluded that students who began a course with low to moderate motivation to study had increased motivation to study after interacting with a highly immediate instructor, while students with a high level of motivation were unaffected by the high level of immediacy.

With the evidence suggesting that close social interaction, or immediacy, between an instructor and a student is correlated to some degree with student motivation, especially for students who have a low to moderate natural level of motivation, there is a need to investigate the instructor immediacy limitations that exist in online learning. Online learning environments do not have the advantages of the close proximity and all of the sensory perspectives and perceptions that are available in that setting. Due to this dynamic, it could be argued that instructor immediacy, and hence increased motivation for nonhighly-motivated students, is an unlikely product of a traditional online class.

#### LIVE VIDEO

To emulate some of the advantages of face-to-face settings, many attempts have been made to use synchronous (live) video conferencing in online distance education. The rapid propagation of the Internet over the last decade has led to new opportunities for leveraging the potential of live video in online distance education settings. In North America, it is estimated that by 2007, 73.6% of the population had access to the Internet, which equates to a growth of 130% between 2000 and 2007 (http://www.internetworldstats.com/stats2.htm).

Home computers and webcams are now relatively inexpensive products and it seems that the time is right to capitalize on the potential benefits of video conferencing. However, there are still several problems in the implementation of live video that need to be addressed. First, being required to join a live video conference removes the time flexibility benefit which is one of biggest attractions of distance education. Second, many different technical issues exist that make it difficult to guarantee a good quality experience for all participants. In any group of online distance learners there can be diverse Internet connection, personal computer hardware, software, and other setup problems that, added together, cause different learners at different times to have a poor quality experience or to miss the experience altogether.

#### **A POTENTIAL SOLUTION**

Another audiovisual technology that may be a part of the solution is asynchronous (prerecorded) video communication. Asynchronous video takes advantage of the same Internet infrastructure and personal computer availability as live video streaming, but does not suffer from the same problems. Video messages, or video clips of instruction, are recorded and then sent over the Internet, which means that if the Internet connection is slow, then it will simply take longer to send, or can be resent later. As these video messages are recorded, the time flexibility benefit of online learning is retained, as an instructor or a student can record a video message at any time, and the receiver of the message can view it at any time according to his or her own schedule and availability. While these asynchronous video messages do not allow for spontaneous two-way discussion, they do convey many of the verbal and nonverbal elements associated with human face-to-face conversation.

# INITIAL PILOT USING ASYNCHRONOUS VIDEO

For the Winter 2008 semester, a request was made to develop an online version of a class in the School of Education at BYU. In this class, which is required for secondary teaching majors, preservice teachers learn how to implement technology in second-

ary education classrooms. It was decided to try piloting the use of asynchronous video as a central communications method in the online class. The idea for using asynchronous video originally came from the designer/instructor's experience networking with family members in other countries using asynchronous video, or videomail, as it is sometimes referred to.

In this first pilot class in winter 2008, each student was required to have a webcam and access to a computer and the Internet. On the first day of class, students met with the instructor in a lecture theatre to discuss the structure of the class and for the students to view and discuss a video presentation. This was the only time the class met together. The students were then required to go to the class Web site using the Internet and to follow the instructions on the site. The first thing that students were required to do was to watch a video clip in which the instructor introduced himself and then explained the goals and objectives of the class.

As part of the first set of assignments the students were required to use webcams to record a clip to send to the instructor. In this clip, students were required to introduce themselves, describe something unique about themselves, and respond to a discussion question related to the assignments. Video clips were sent by each student to the instructor as attachments in an e-mail. On reception of each video clip sent by students, the instructor recorded a video clip of himself in which he responded to the personal introduction given by the student, expressed encouragement, and stressed that the he would do his best to help when needed, and finally gave some feedback on the student's response to the discussion question.

At certain points in the semester, students watched video clips in which the instructor was shown presenting certain topics that were reinforced with diagrams and pictures mixed into the video clips. The class Web site included textual instruc-

tions on the requirements of assignments and, in most cases, screen capture video clips showing how to use the software applications that were used in the assignments. Several assignments required the students to record video clips of themselves explaining the rationale for their projects or responding to a discussion question.

From time to time the instructor sent emails with encouragement and reminders, and several times the instructor sent these messages in the form of recorded video clips instead of textual messages. The students also sent e-mails to the instructor when they needed help with assignments or if they had any other questions. The instructor attempted to answer all e-mail questions by the end of the day in which they were received. The final class assignment required each student to send a video clip to the instructor answering several final exam questions and also giving general feedback on the class including saying what they would do differently if they were the instructor.

#### **INITIAL PILOT RESULTS**

Following the pilot, student perceptions and class artifacts were studied to see whether immediacy was established and to what degree and the results were very positive. From student comments and the scores from the student ratings system, it was obvious that the students were able to perceive the instructor and his personality very well through the use of asynchronous video. The class was rated higher in every element of the BYU student ratings system than any of the face-to-face sections of the same class, and the students submitted comments such as:

It was much more personal this way, even more so than a face-to-face class usually is. The instructor was personable with the students even though this was an online section.

The instructor really showed that he cared about us as students.

Instructor was very good at communication between teacher and students especially for an online class.

Apart from the high level of immediacy as perceived by students, there were two other main benefits that surfaced during the study of the pilot. First, students were reporting that they had a closer connection to the instructor than in a face-to-face class and that they felt that they had received more individual attention and feedback than in a face-to-face class. Second, the instructor reported that there was a marked difference in the kind of responses students would give to assignments when they were required to present their response on a video clip in comparison to the responses to the same assignments that are normally in written format.

#### INSTRUCTOR PERCEPTIONS

The instructor reported that although there was a fair amount of extra work involved in the initial design and set up of the online class, the actual running of the class was no more difficult or burdensome than the face-to-face version. In terms of overall time commitment, the instructor stated that the online version of the class actually took less of his time, and that it changed the way he worked. He would read e-mails, watch video clips, and respond to individual students at various times of the day, including evenings and weekends, whenever he happened to be online. This is in comparison to the face-toface class where he would store up assignments to grade at regular intervals. The instructor declared that this actually reduced stress as a large pile of work rarely accumulated. However, the instructor recognized that this pattern of flexibility

suited him personally, but might not suit other instructors.

The instructor stated that the video clip presentations by students were a better representation of their actual level of knowledge than the written assignments that are required in the face-to-face class. The instructor also reported that the responses contained more information, and that he was able to more accurately discern the knowledge and skills of the students due to the audio-visual cues inherent in a video clip presentation. The instructor also stated that they knew more about each individual student than he felt was possible in the face-to-face class setting, which meant that he was consequently more able to respond to the individual needs of each student. The instructor stated that he did not think that there were many benefits of the face-toface class that were lacking in the online class, with the exception of the dynamic nature of class brainstorming that he stated was a helpful part of the learning process for the face-to-face students.

#### **FURTHER DEVELOPMENTS**

Following the pilot, the method of using of asynchronous video was further developed, and another online class was implemented in fall 2008 in the School of Education. One major development since the initial pilot was a better and simpler use of technology. In the pilot, students recorded video clips on their computers, and then e-mailed the clips as attachments to the instructor. There were numerous issues to resolve using this method, as some students did not understand how to create smaller video files that could be e-mailed, or did not know where to find the video files to attach to e-mails. It was recognized that to be successful, technological barriers needed to be removed.

Over the summer period, online tools were evaluated, including Web sites such as freegabmail.com, tokbox.com, and social

networking tools such as Facebook. These Web sites allow users to create and upload video clips, and in most cases require no prior technical expertise. The Web sites control the webcam and upload clips automatically to their servers, thus removing most of the technical barriers that had been faced in the pilot. Tokbox.com was selected as an interim solution while a new Web site for class video blogs was developed by the BYU Center for Teaching and Learning, which became available a few weeks into the semester. There was a transition period when both tokbox.com and the class video blog Web site were used; for the second half of the semester, only the class video blog Web site was used. The class video blog Web site was as simple to use as tokbox.com and it linked to the BYU student database, which made it easier to create class groups. Additionally, the class video blog Web site allowed for group discussion blog pages for which the other Web sites such as tokbox.com do not have the functionality.

In the fall 2008 online class, which was also taught by the designer-instructor of the original pilot, the pattern was similar to the winter 2008 class, except that there were more student assignments in the form of video clips. There was also more feedback from the instructor in the form of video clips. Following the experience of the pilot, the model for using asynchronous video was more fully developed and organized, and included two experimental video-based group assignments.

# IMMEDIACY AND MOTIVATION IN THE FALL 2008 ONLINE CLASS

With the implementation of Web sites that facilitate asynchronous video communication, the class was in general a smoother experience for students and instructors. The perceptions of students in the online class followed the same pattern as for the pilot, except in this case, the students had never met the instructor. Student com-

ments related to immediacy include the following:

Although I've never met the man, I feel like I know him really well and that he knows me. I loved this course!

The instructor is so involved and committed to my learning and success.

I received quick and valuable feedback from him.

I felt like the instructor made concerted efforts to encourage his students and connect with them despite the fact the class was online.

The instructor was one of the most caring and friendly teachers I've ever had.

It's great to have a teacher that cares as much as he does.

In addition to reviewing student comments, four students from the online section were interviewed after the class had ended. The students met the instructor in person only when they came for interviews, at which point the instructor introduced them to the interviewer. Comments from the interviews confirm the high levels of immediacy achieved through the use of asynchronous video. When asked about how connected they felt to the instructor, students gave the following statements:

When I gained the best connection was when he would look at my video or my project and then make some kind of personal assessment or give me some response. And I was really impressed that he was able to do that as frequently as he did, so I think that's really what helped us understand each other.

He sent us a webcam every week, and so just walking in I recognized him right away even though it was the first time I'd seen him in real life. I felt that he was really approachable. I didn't have too many problems in the class, everything was pretty straight forward, but I feel that if I did, he was really approachable and I could ask him and he'd be willing to help.

I think the consistency of him sending webcam messages of himself; just that he was that consistent and always on top of it. I feel like whenever I did e-mail him something I got instant feedback. That's really different than a teacher would be in a real classroom.

The comments relating to connectedness reveal perceptions of instructor immediacy and the capacity of asynchronous video to form close relationships in which participants know each other without any physical contact. As previously noted, high levels of immediacy have been shown to be correlated with increased levels of student motivation. When students were asked to comment on how the relationship with the instructor through asynchronous video had affected their motivation to perform well in the class, students made the following statements:

I think it can only contribute to it. He was really good at making me comfortable, I would put work into it just as any student would and he really built it up. He was always enthusiastic about the job I did and that really helped me have a desire to do well in future projects.

I knew he was concerned and he was interested and he was very helpful. And just knowing I had the resources of everything he taught us plus any help that I may need from him, just knowing that I had all these resources, I might as well use them.

Well, yeah. He always had a response. We would post a clip and he would post a response. That would be kind of like grading a term paper that we would have to write and the teacher would write "good job." But he actually took the time for each one of us.

Results from the pilot and the fall 2008 online class consistently show the same patterns of high levels of immediacy and closeness between students and instructors, which, according to the available data from student ratings and student inter-

views, has had a positive effect on student motivation.

# STUDENT COLLABORATION AND SOCIAL PRESENCE

Close connection and interaction between students is another aspect of face-to-face classrooms that has not been so easy to implement in distance education. These interactions and connections in online student communities have been described in research as social presence. Social presence is one element of the well established community of inquiry framework (Garrison, 2003), which was designed as a way of viewing the overall educational experience with the original objective of observing the strengths and weaknesses of text-based online education. The framework incorporates three main overlapping sectors that were perceived as being necessary elements of an educational experience. The three main sectors are cognitive presence, teacher presence, and social presence. Social presence is defined by three main constructs: affective expression, open communication, and group cohesion. These three constructs are mostly used to represent the quality of experiences between students in a learning environment.

Social presence is further described as, "The ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities" (Arbaugh et al., 2007, p. 4). This is also described in the following terms: "Within our model, we define Social Presence as the ability of learners to project themselves (i.e., their personal characteristics) socially and emotionally, thereby representing themselves as "real" people in a community of inquiry" (Arbaugh et al., 2007, p. 21). In addition, the expression of emotion, feelings, and mood is a defining characteristic of social presence as described by Garrison,

Anderson, and Archer (1999), and research by Eggins and Slade (1997) suggests that humor is also a strong indicator of social presence. According to these descriptions of social presence within the community of inquiry framework, the establishing of social presence in a traditional online setting is not easy to achieve to the degree that can exist in a face-to-face setting due to the lack of verbal and nonverbal cues and the sensory perspectives and perceptions that exist in a close proximal setting.

# COLLABORATION USING ASYNCHRONOUS VIDEO

In the online class in fall 2008, two group assignments were introduced. The introduction of these assignments was a first attempt to test the ability of asynchronous video to achieve group collaboration. For this research, the first group assignment is termed as a stepped approach and the second is termed as a round-robin approach.

For the stepped group project, students were divided into groups of three or four students. Each group had its own blog page on the class Web site. Each student submitted two video clips to their group blog as part of the assignment. The subject of the discussion was Google Earth. First, students watched video clips showing how to use Google Earth and specifically how to create a virtual tour. Students then posted a video clip in which they described their first ideas on how they might have secondary aged students use Google Earth to enhance learning. Once each student had posted a video clip to the group blog page, the instructor posted a clip giving some additional insights. Next, each student was required to watch the clips posted by all students and the instructor on their group page. Then, each student recorded another video clip in which they discussed the ideas of every other student in their group, and at the end of the clip they stated how their own ideas had developed. They finally each

created a virtual tour based on their selected learning objective.

For the round-robin group assignment, the group consisted of all students in the class. The topic of discussion was how online blogs can be used to enhance student learning. The first student posted a video clip brainstorming an idea of how they might use a blog to help students learn. The second student watched the first clip, and in their clip they commented on the ideas in the first clip and then added something new. Each subsequent student watched the two most recently posted clips and commented on them both before adding their own ideas. Each student was required to submit two comments, and students were not allowed to submit their second comment until at least three had been posted since their first post. Thus, for most students, they were required to watch clips posted by four different students.

# RESULTS OF STUDENT COLLABORATION

Students completed a Likert-scale survey based on the social presence section of the community of inquiry measurement instrument (Arbaugh et al., 2007, p. 46). According to results from the survey, from student ratings comments, and from student interview comments, a clear pattern emerged. Students reported that they had learned from each other, but that they did not form distinct impressions or form relationships with other. In terms of the social presence constructs in the survey for the 17 students who completed the survey, affective expression rated low, while open communication and group cohesion were more highly rated, as shown in Table 1.

Student comments from interviews confirm this general pattern. Statements related to how students learned from collaboration include the following:

The video sharing was really good because we were able to receive other ideas from other students in our same program. And so some of the ideas they came up with were really good so I liked the sharing through the students.

I went through, not everybody's but I went through several of them each time. It also helped me figure out exactly what everyone else thought the assignment

Table 1. Social Presence Survey Responses from 17 Online Students

Construct	Likert Rating (1-5)
Affective expression	
Getting to know other course participants gave me a sense of belonging in the course.	3.38
I was able to form distinct impressions of some course participants.	3.56
Online or Web-based communication is an excellent medium for social interaction.	3.38
Open communication	
I felt comfortable conversing through the online medium.	4.38
I felt comfortable participating in the course discussions.	4.50
I felt comfortable interacting with other course participants.	4.38
Group cohesion	
I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.	4.06
I felt that my point of view was acknowledged by other course participants.	4.25
Online discussions help me to develop a sense of collaboration.	4.38

was so it helped me figure out the assignments.

Being able to see their ideas and remember what they used in their teaching, their lessons that they had already planned out in other classes we had been in, it was fun to see how they went off that and formed new ideas.

And there were a few, I guess that I would watch more than others, and so there were a few that I would say that I felt like I gained from or that I shared with.

Student statements from interviews that relate to the lack of forming connections or relationships, a general lack of interest in other students, or problems with getting to know the other students in the groups include the following:

I don't think so, not as much, as group projects I've been a part of before in other classes. I didn't feel that I was that important to any group project that I was working on. I didn't feel that cohesiveness or something with the group, it was lacking.

So yeah, unless it was an assignment, I didn't really watch anyone else's blog or videos.

So that's a challenge I think with working in groups, especially if you don't have email addresses and contact information. You only rely on that Web site which people probably don't check as frequently as those other things, so it's harder to work together as a group.

In hindsight, it is not surprising that this pattern emerged. Both group assignments were designed to allow students to see each other and to listen to ideas, but neither assignment was designed to allow for direct student-to-student dialog and expression. This was a major learning point from the fall 2008 online class. This experience raised questions, such as how can asynchronous video be used in a way that allows for effective student-to-student dialog in collaborative assignments and

that also facilitates the forming of strong and close relationships that are motivational to their educational experience? Currently, two online classes are being taught and studied during winter 2009, and group assignments have been adjusted to allow for increased student-to-student dialog. Results of these developments will be published as soon as possible.

# INSTRUCTOR PERCEPTIONS OF COLLABORATION

The instructor reported that the two group assignments were not structured to allow for a group construction of knowledge or any kind of collaborative product. However, the instructor acknowledged that students did gather ideas from each other, and that there were some interesting benefits to the asynchronous group discussions that were noticed. It is difficult to guarantee that each student in a face-to-face class can have a fair and equal voice in any group assignment as some students are naturally more dominant than others, but in the asynchronous discussion, no student could dominate, and each was required to participate, which also added individual accountability. The fact that every student was able and required to share ideas was considered by the instructor to be a positive side to the asynchronous group assignments.

#### **STUDY LIMITATIONS**

The study of the use of asynchronous video so far has been limited to online and blended classes that are offered to students on the Provo campus of BYU. It is hypothesized by the researchers and designers involved in these studies that the method of using asynchronous video as a core component of an online educational strategy will be favorably received and motivational to learners who are truly at a distance and who chose distance educa-

tion as their preferred learning experience. Further research and development is necessary in a true distance learning environment to scrutinize these claims.

#### **SUMMARY AND CONCLUSION**

Asynchronous video, or video-mail, is not a new state-of-the-art technology, but it is a new technique that is being introduced to the educational world. Recent developments in social networking technologies have produced online tools that facilitate the use of asynchronous video via webcam for educational purposes. Initial studies in the School of Education at BYU suggest that asynchronous video has the capacity to deliver the verbal and non-verbal signals necessary in developing positive levels of immediacy and social presence that can be motivational to students in regular face-to-face learning environments, and at the same time maintain the time and location flexibility benefits of distance educa-

Initial studies have also shown that certain aspects of student collaboration are possible, but that more development and research is required to find out to what extent elements of face-to-face collaboration can be reproduced using asynchronous video. In addition, research is required to study the potential of asynchronous video to create a different style of collaboration that is effective in ways that may only be achievable in asynchronous settings. To find answer to these questions, an asynchronous video learning model is currently being developed at BYU, and collaboration on the development of this model is welcomed.

Although development is still in its early stages, results from the study of online classes in the School of Education at BYU show that there is a high degree of promise in using asynchronous video to bridge the gap and enjoy the benefits of both face-toface and distance learning environments.

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# How Does the Use of Interactive Whiteboards Affect Teaching and Learning?

#### Derek S. Kaufman

#### **BACKGROUND**

n February 2008, Potomac Falls High School in Loudoun County, Virginia had 72 Promethean Interactive White-boards installed—part of the county's \$3.6 million dollar technology initiative to improve technology use in the classroom. In most cases, teachers came to their classroom the following day and found that the new boards had been placed over the

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chalkboard they and the students were so accustomed to using on a daily basis. Although all faculty members attended two 1-hour workshops within days of the installation, these workshops did not allow time for sufficient training on designing, developing, and integrating activities using the boards and the accompanying software, ActivStudio.

In an attempt to increase the skill level and expand the use of the boards by both students and teachers in the classroom, I facilitated three 4-hour workshops (one "basic skills" and two "intermediate/advanced skills" sessions) in September and October 2008.

The basic skills workshop introduced teachers to inserting text and images, converting previously made files into a flipchart file, and inserting links to other files and Web sites, as well as several activities that can be quickly and easily created in only a few steps using the main tools in ActivStudio such as the spotlight, eraser, and camera tools.

The intermediate/advanced skills workshop introduced teachers to "layering" and "stacking." These advanced concepts were used to demonstrate several activities that can be created stacking and layering images/text, although they typically involve more time and preplanning. These activities included hiding text using color

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blending, creating "restrictors," using the transparency tool to hide text and/or objects, creating a rotation point on an object, assigning objects as "containers," and assigning "actions."

Each training session included at least 2 hours for teachers to develop activities that integrated some of the features discussed in each of the workshops. Although the training sessions were open to all 150+staff members at Potomac Falls High School, only 10 teachers, most of whom were from the foreign language and special education departments, attended one or more of the workshops (see Table 1).

The purpose of this study was to determine the effect training had on teacher skill development and understanding with regards to the interactive whiteboard and ActivStudio. Additionally, this study addresses teacher and student attitudes towards the use of the board as a teaching/learning tool.

#### LITERATURE REVIEW

As educational institutions attempt to keep up with twenty-first century technology, the traditional classroom continues to evolve into a multimedia-rich environment that combines multiple technologies. Interactive whiteboards (IWBs), a technology that was once only found in corporate offices and higher education, have begun to make their way into many elementary and secondary classrooms, both in the private and public sectors, as their overall cost

and size have been reduced. Their versatility and functionality with multiple applications make them an appealing addition to the classroom, as they present more opportunities for educators to design and conduct various forms of lessons assessments. This ability makes them a powerful tool in meeting the diverse needs of the auditory, kinesthetic, and visual learner because they can be used to design and conduct lessons that involve "teacher modeling and demonstration, prompting, probing, and promoting questioning, managed whole-class discussion, review of work in progress," as well as formative and summative assessments (British Educational Communications and Technology Agency, 2004, p. 2). Black and Wiliam (1998) concluded that "formative assessment is an essential component of classroom work and that its development can raise standards of achievement" (p. 147).

# WHAT ARE INTERACTIVE WHITEBOARDS?

While several models of interactive white-boards are available, each has the potential to be a robust, media-rich teaching tool. The boards are used in conjunction with a computer (desktop or laptop) and a projector, and although various board sizes exist (as much as 88" diagonally), they can be permanently mounted on a wall or installed on a mobile stand. Many of the newer whiteboard systems are also equipped with audio systems and short

Table 1. Workshop Attendees

Workshop	Department	Number of Attendees Per Department
Introductory course	Fine arts	1
	Special education*	2
	Foreign language*	2
Intermediate/advanced course	Special education*	4
	Foreign language*	4
	Mathematics	1

*Note:* \*One or more attended both levels of workshops.

throw projectors, which help minimize shadows and allow the boards to be installed in smaller spaces. Essentially, the boards, when used with the interactive board software, are large electronic platforms that allow users to manipulate text, images, files, and other programs with the use of an electronic pen or simply by the touch of a finger. Although manufacturers market their own proprietary software with each model of board, the software provides users with several interactive tools such as electronic highlighters and pens, countdown clocks, calculators, and rulers, in addition to functions that make it possible to link and embed other file types. The range of possible activities and uses is immeasurable, as the board's full potential has yet to be realized in educational settings.

The distance between users and the board can also be extended with the use of "wands," wireless slates, or tablets, which allow the user to move around the classroom while still having the ability to interact with the board. In addition to these "add-ons," various types of handheld individual response systems allow teachers to poll and assess students through varying types of assessment and game-related activities.

#### INTERACTIVE WHITEBOARD USE

The capacity of interactive whiteboards to incorporate a wide range of media and produce student-centered activities seems to be the driving force behind their increased popularity in educational institutions. Web sites, video, audio, and other types of files can be used in conjunction with the board as well as be embedded into the files created with the whiteboard software. Because of the boards' large display surface and ability to connect to devices such as digital cameras, microscopes, and media players, the board makes viewing and listening to various forms of media feasible for the whole class.

This capability also allows teachers to conduct real-time or recorded demonstrations where space and easy-viewing may be a hindrance.

Glover, Miller, Averis, and Door (2007) indentified three teaching approaches in classrooms equipped with an interactive whiteboard. Of the 50 observed lessons, Glover et al. (2007) found that teachers used a "supported didactic" approach (i.e., using the board as a visual aid) in 14 lessons, an "interactive" approach (i.e., using the board as a visual, verbal, and kinesthetic aid) in 15 lessons, and an "enhanced interactivity" approach (i.e., using the board to elicit student discussion and the use of higher order thinking skills) approach in 21 of the lessons (p. 12). Wood and Ashfield (2008) point out that IWBs promote more direct teaching techniques such as "explaining, modeling, directing, and instructing" (p. 94). While the boards can promote new teaching and learning opportunities, Wood and Ashfield (2008) also point out that a teacher's perception, understanding, and interpretation of teaching and learning have a more significant impact on student learning, rather than the tools being used (or not used). "As with any resource, it is perhaps the context and the purpose that remain the most influential factors with regard to developing children's learning" (Wood & Ashfield, 2008, p. 94). Other research has concluded that "the most effective designs for learning adapt to include a variety of media, combinations of modalities, levels of interactivity, learner characteristics, and pedagogy based on a complex set of circumstances" (Metiri Group, 2008, p. 14).

# BENEFITS FOR TEACHING AND LEARNING

Several studies have found there is often a high level of enthusiasm amongst students and teachers when IWBs are used in the classroom. Bell (1998) found that students "were more involved, attentive, and moti-

vated when lessons were offered using the board rather than using other teaching methods" (Chapter 5: Conclusion, para. 1). Although the boards may not be used for every lesson or activity, they give educators the ability to be flexible and spontaneous in their instruction. Spur-of-themoment text and image creation/manipulation, references to previous material, and access to Web sites can quickly and easily be displayed on the board or printed within moments, maximizing instructional time and capitalizing on "teachable moments." Glover et al. (2007) determined teachers who regularly use the board tended to organize lessons that involved board use into three categories: by topic, by lesson or by grade/subject level. Consequently, revising and sharing lesson plans that integrate use of the interactive whiteboard is more likely to occur as educators realize the efficiency such a technology can offer.

Research also indicates there is an increase in teacher preparedness prior to conducting lesson using the boards. Glover et al. (2007) wrote that "tighter preplanning encouraged teachers to design activities involving all pupils and building on the use of verbal, visual, and kinaesthetic approaches" (p. 13). Furthermore, teachers who created more structured lessons, often incorporating various board features, tended to keep students on-task and maintaining interest.

The British Educational Communications and Technology Agency (BECTA) highlights the ability of IWBs to allow teachers to illustrate abstract ideas and concepts through a variety of nonlinguistic representations such as graphic organizers, concept maps, process/cause-effect pattern organizers, and physical models. As Williams, Lock, Crisp, & Longstaffe (1995) noted, "Images are generally more evocative than words and more precise in triggering a wide range of associations, enhancing creative thinking and memory" (p. 4). These diagrams, along with other

variations, are typically included in the whiteboard software and can be added to files by dragging and dropping the image onto the screen. Furthermore, these images are often editable, allowing educators to customize them as needed.

# OBSTACLES FOR TEACHING AND LEARNING

Despite the many benefits of using an interactive whiteboard in educational settings, there has been little research demonstrating their effect on test scores and student learning. A 2-year study conducted for the United Kingdom's Primary National Strategy pilot program "Embedding ICT" did not find any significant differences in test scores between schools with IWBs and those without IWBs (Higgins, Beauchamp, & Miller, 2007, p. 221). Glover et al. (2007) argue that "it is still the quality of the teaching that ensures progress; the IWB alone does not guarantee it" (p. 17).

For educators who may be uncomfortable or lack basic technology skills, the IWB can be a hindrance to their teaching and classroom management. Policymakers and other stakeholders must realize, however, that is a long-term process in which users need time to reflect on, experiment, and produce lessons that incorporate even the most basic functions of interactive whiteboards. However, in order for technology in general to become an integral part of education, "there may need to be a new wave of professional development in ICT [information and communications technology] which takes account of the extended list of ICT's features and the need to embed them in teachers' pedagogical knowledge and reasoning" (Kennewell & Beauchamp, 2007, p. 240).

As with many new technologies, there is an initial period of excitement that can quickly disappear unless both policymakers and educators invest in professional development so users are technologically and pedagogically proficient so that learning and teaching goals are more likely to be achieved. Higgins et al. (2007) stated, "as teachers become more fluent in their use of IWB and as they recognise the link to pedagogical change, the IWB becomes a potential catalyst for further change" (p. 000).

#### **PURPOSE OF STUDY**

The purpose of this study was to analyze the level of interactive board use and how it correlated with the comfort levels of teacher prior to and after training. (In 2008, Loudoun County Public Schools installed over 400 78-inch Promethean Interactive Whiteboards in all high school classrooms around the county. The installations included a short-throw LCD projector and audio system. Over the next 2 to 3 years, all elementary and middle school classrooms in the county will have these same systems installed.) Although each workshop included opportunities for teachers to practice using several interactive features, it was hoped the planning time provided (approximately 2.5 hours) allowed teachers to design a lesson or activity that integrated several interactive features, which could then be used in the classroom. Additionally, the study intended to document the various types of activities teachers used both before and after attending the training workshops.

While a majority of teachers and students still appear to be enthusiastic about the boards, this study also anticipated that those in attendance would use the board more effectively and purposefully in their lessons, which, in tandem with good pedagogical practice, could increase student participation and achievement.

#### METHODOLOGY

Since the interactive whiteboards are a relatively new technology at Potomac Falls High School, a mixed method research

study was used in data collection due to varying levels of technology use and skill level of those who attended the workshop. To obtain a holistic view of how and why the boards are used (or not used) in the classroom, surveys and one-on-one interviews provided relevant data for this study.

During each workshop, three short assessments were conducted to determine understanding of each topic after it was covered (e.g., transparency tool, magic revealers). Answers to each question were submitted using the Activoters, Promethean's handheld electronic voting system. There was a 100% pass rate for every question in both levels of workshops, with the exception of one question in the intermediate/advanced workshops. asked whether an object's properties and behavior would change when its (a) order or (b) layer was also changed, the incorrect answer was always chosen by one person. After moving back to image that showed a three-dimensional view of a flipchart page and reviewing how to change the order and layer for an object, teachers stated they better understood the differences between the two terms.

Teacher attitude toward the use of the whiteboard and software, as well as their understanding of both, were measured using several instruments, including a sixquestion pre- and posttraining survey, and five-question structured interview. Teachers completed the six-question survey prior to the training by submitting answers with the Activoters. To provide teachers time to implement the activities they created during the workshop, as well as develop additional lessons, the posttraining survey, which was identical to the pretraining survey, was given approximately three weeks after attendance to a workshop. The survey was posted using the school Web page software, Schoolwires, and attendees were e-mailed a link to the survey. Interview responses were collected on paper by the researcher as

they were conducted. A total of 13 teachers were surveyed and six were interviewed in this study.

Within this same time frame, students of the teachers who attended one or more workshops were also surveyed and interviewed using a three-question survey and a four-question structured interview. Because of varying class sizes and content areas, the number of surveys and interviews varied by teacher. A total of 248 students were surveyed and six students were interviewed in various classes. The interviews provided more detailed information regarding how the students perceived the board and how it was being used in their class.

Both student and teacher interviews provided more specific insights about what types of activities the boards are being used for in the classroom. Many activities involved having students come to the board and fill in blank spaces with words or numbers, manipulate text and/or images, or keep track of team scores during review games.

#### **DATA ANALYSIS AND FINDINGS**

The pretraining survey responses were compared to the post-training survey responses from each teacher to determine what differences, if any, exist. Survey questions focused on teacher understanding and "level of comfort" with using the board and the accompanying software to develop interactive lessons. The survey results indicated that teacher comfort level tended to increase after attending one or more of the workshops (see Figures 1 and 2).

It should be noted that despite two teachers indicated they were still "not comfortable" with the software after attending training, the board one teacher's classroom was not installed until September 2008. The other teacher is a learning specialist who rotates between several classrooms and content areas each instructional

period, typically working with only one or two mainstreamed students. Like many of the learning specialists at the school, this teacher has few opportunities to interact with the board since they are not the lead instructor in the class.

Teacher usage went up slightly as well, according to the posttraining surveys. Six teachers indicated they use the board "daily with every class" as opposed to only five teachers prior to training. However, one teacher indicated he or she still rarely used the board after attending the workshop, because it is a drama course and a majority of the class takes place on the stage in the auditorium, rather than in the classroom where the board is located. The interviews revealed that those who attended a workshop tend to use fewer handouts and maximize instructional time because they now can post documents, warm-up activities, and agendas on the board. In addition, students are able come to the board to complete these activities and then review them as a class. Some teachers also commented that they are spending more time with preplanning lessons that integrate the board. Although this may be a hindrance to some based on their technology skills, the impression from the interviews was that these teachers are taking time to create thoughtful and purposeful activities that focus on the needs of all students.

Although seven teachers who attended one or more workshops still found the ActivStudio software to be "somewhat difficult/easy" to use, only one teacher indicated the software was still "difficult" to use after training, while two other teachers thought it was now much more "easy" to use after attending the workshops because "it gave [them] an opportunity to get some questions answered" and "have time to sit down and think about how to create a lesson using ActivStudio." Teachers also pointed out that they are regularly incorporating several of the features that were covered at the workshops in their lessons

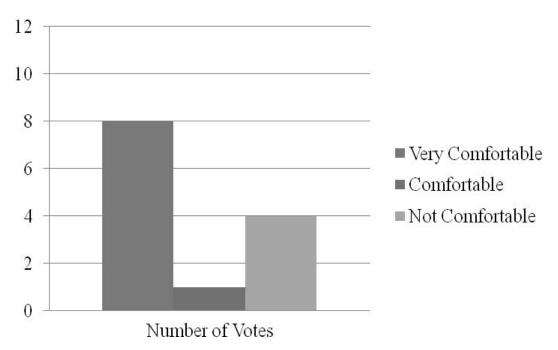


Figure 1. Pretraining survey.

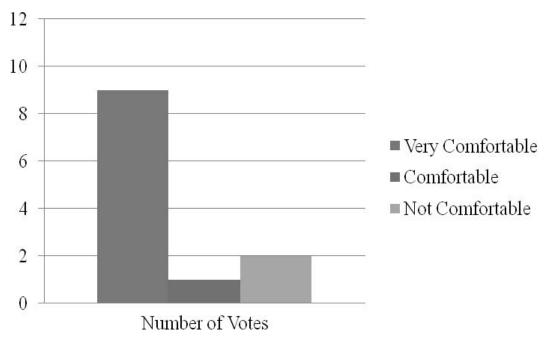


Figure 2. Posttraining survey.

(e.g., magic revealers, color blending). Instead of using the board simply as a large monitor to post daily agendas and write notes, teachers appear to be exploring the many interactive features of the boards through varied instructional activities.

It was also evident from the survey results that teachers believe the boards not only have a positive impact on student learning, but also on their own teaching. One teacher explained that "it is not just multiple-choice anymore. Students have the ability to add text to their answers to better explain them." Another stated that although it takes more time, they are "creating more meaningful lessons" with ActivStudio. The student surveys gathered data that focused on students' perceptions of how the board has affected teaching and learning in that particular class. Results from the student surveys were collected using a standardized questionnaire form (see Figures 3 and 4).

It is apparent that a majority of the students believe that the boards have had a positive impact on both learning and teaching in each of these classes. According to one student, "the different colors,

graphics, and images help the 'visual' students like me ... you can easily start from scratch if you mess up." Two teachers stated that since having the board installed they take the time to type up their notes ahead of time instead of writing them down on a transparency each class, saving them time. Levy (2002, Conclusions and Directions for Further Action/Research section), writes "both learners and teachers perceive a significant role for the IW in helping to motivate students, focus their attention, and stimulate involvement in whole-class learning."

A foreign language teacher, now in her 33rd year of teaching, noted that the pass rate for a quiz on commands significantly increased when she used the color-blending feature to present the conjugations of the verbs (see Figure 5).

The teacher estimated that in the past, only about 40% of the students passed this quiz. However, after using this activity she created at the intermediate/advanced workshop as part of a review, nearly 95% of the students passed the quiz this year. "I believe students enjoy it [the board] more because they think of it as a video game.

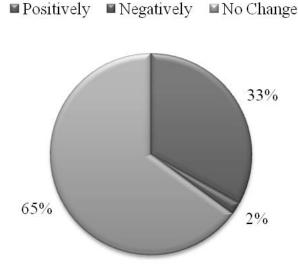


Figure 3. Effect on teaching.



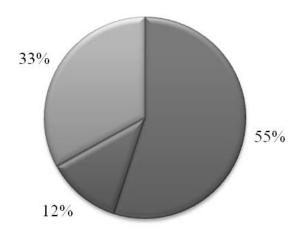


Figure 4. Effect on learning.



Figure 5. Color-blending feature.

They are able to easily manipulate words and images, like they are playing a game." Hodge and Anderson (2007) concluded that the subject in their study "reminded herself of the need to integrate visual material with active learning activities that optimize the power of the IWB to engage the learners yet retain pedagogical approaches that facilitate learning" (p. 280).

Additionally, students were asked how often they use the board in their class (see Figure 6).

The one area that both teachers and students agree most is that there needs to be a multi-user option. Although the teachers

who were interviewed indicated they have students at the board every day, not every student gets to come to the board every day. Currently, only one ActivPen can be used to manipulate objects and text on the board, limiting the variety of activities as well as the number of students who can go to the board. "I'd like to have them play more games like Jeopardy and have races," stated one teacher. While a multi-user ActivPen is still in development by the Promethean Corporation, it appears teachers will continue to be limited to single-user activities at the board. As a result, some activities will take more time to complete if

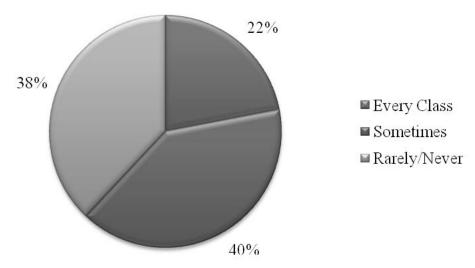


Figure 6. Student use.

several students are required to go to the board.

### **CONCLUSION**

This study suggests that teachers are using the boards as a teaching tool in several ways as the board helps to create a flexible learning environment. While faculty members possess varying levels of technology skills and use a variety of interactive features, overall, both teachers and students view the boards as an asset to the classroom. Teachers commented that their students are more likely to take notes and pay attention when the board is used as a presentation device. Interviewed students mentioned that students often help teachers to use the boards when they get "stuck." "We help [teachers] at least once a week," said one foreign language student, "because we're not afraid to mess with things."

Findings from this study also point out that there is a need for a multiuser pen to be developed and included with the interactive whiteboard so the board can facilitate more pair and group activities to increase board use.

Although all staff members at Potomac Falls High School had the opportunity to attend one or more of the workshops, only ten teachers participated, with most being from the foreign language and special education departments. As a result, it is unclear how other departments and teachers use the boards for instruction, how often they use the board, and how this usage relates to the teachers' understanding of the software. In addition, teachers came to the workshops with varying technology skills, which most likely had a significant influence on their ability to interact with fairly sophisticated software. Having time to develop more interactive lessons as well as gain a better understanding of the software is an issue many teachers are facing. Levy (2002) concludes:

significant early investment of resources is an important success factor in the development and acceptance of IW-based teaching. This applies to provision of technical and physical resources (e.g. installation of IWs in enough classrooms, installation of classroom blinds) as well as to provision of sufficient time and support for staff training and development.

With increased class loads, class size, and extra duties, most planning periods are, unfortunately, spent making copies and grading papers, rather than collaborating, developing technology-rich lessons, or attending training opportunities offered by the technology resource teacher. It is recommended that a regular and convenient training schedule be implemented at both the school and county level to provide teachers with more opportunities to develop and enhance their technology skills, in addition to provide students with twenty-first century learning skills.

Future studies should continue to conduct research the impact of interactive whiteboards on teaching and learning, specifically how it relates to student achievement and changing teacher pedagogy. Because most research on interactive whiteboards has been qualitative in nature, more quantitative research involving longitudinal studies between content areas would produce data that may also be useful for educational institutions that are considering purchasing interactive whiteboards.

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### **Teaching Online**

### Growth in Online Education

### Chad McAllister

or the past 8 years, I have been involved in online education; first as a student, then as a part-time teacher, and now as an online educator as my primary career. For those unaccustomed to online learning, it involves delivering most or all of the course content asynchronously via a computer. Learning management systems, such as eCollege, Moodle, and Blackboard, provide the course platform that contains content and assessments. The frequent elements of an online class experience include lectures (documents, slide presentations, video, podcasts, etc.), asynchronous threaded discussions, and assignments. Some schools



Chad McAllister.
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also incorporate concurrent activities using chat and Web conferencing tools (e.g., Wimba, WebEx, Adobe Connect).

To explore online teaching further and what is involved in moving to online education, this article addresses the following questions: (1) what do online educators say about their experiences, (2) is online education a fad, (3) how does online teaching differ from onground teaching, (4) what are schools looking for, (5) how does one become an online educator, and (6) what is the future of online education.

I asked a few colleagues to share their experiences with online education: Dani Babb (PhD, educator, author, consultant, entrepreneur); Sheri Beasley (PhD, online educator, human resource management specialist); Matt Boyne (MS, commercial pilot, online educator); Angela Ellis (MBA, CPA, core faculty at Colorado State University Global Campus); and John Latham (PhD, educator, consultant, performance excellence expert, author). They provided valuable insights in response to my questions, which are summarized below.

How did you get started as an online educator?

- After being involved with a prerelease test of Blackboard, I began the transition from onground to online teaching. I was excited to reach a new population of learners.
- A former professor put me in touch with a recruiter who later contacted me.
- I was contacted by a former professor who was interested in a paper I wrote.

- I was previously teaching onground and saw students improve when I blended online components using Blackboard. I later switched exclusively to online teaching.
- A colleague who was already teaching online asked if I would be interested in doing the same. I also teach onground now.

What credentials did you have and were they important for how you started teaching online?

- I started teaching with a bachelor's degree and specialized knowledge that was in demand, found more opportunities after earning a master's, and even more with a PhD
- I started with a master's degree and later earned a PhD to open more doors.
- I started with master's degrees and specialized knowledge and am currently pursuing a PhD.
- I was a licensed CPA with a master's degree when I started onground and added online education after 7 years of teaching experience.
- I started online teaching helping dissertation students, so having a PhD was required.

What impact has your professional experience made on your teaching opportunities?

- Many times the learners have incredible life experience. If I cannot weave my own experiences in, they don't see the applicability of the material. I could not be successful without my professional experience.
- My professional background has led to many courses I enjoy. My management and leadership background also resulted in teaching management, business, and leadership classes.
- Because of my background in professional training, I have been interviewed

- many times for teaching and learning courses.
- I believe my professional experiences lend credibility to my teaching. Adult students engage more effectively when I use real-life examples to illustrate points.
- My professional experience has been critical to my teaching success. The combination of my academic education and strong professional experience has been the key to all my opportunities. Either by itself would not be sufficient.

What do you like about being an online teacher?

- Reaching people that are too busy to physically attend school but dedicated to lifelong learning. Working with people so talented and learning from them too is fantastic.
- The flexibility of setting my schedule and working from home or while traveling.
- I love all of it!
- My favorite aspect of teaching online is the flexibility of being able to teach from anywhere at any time.
- I like the flexibility of the asynchronous delivery method and the portability of the classroom. I also can travel and teach from anywhere with a high speed connection.

What do you dislike about being an online teacher?

- Some schools are unrealistic about expectations, with some expecting daily participation in the virtual classroom.
   Sometimes life can feel a bit unstable and long-term contracts are rare.
- Although not unique to online teaching, students who do not read feedback and make needed improvements.
- Needing to purchase a new laptop soon—that is my own out-of-pocket expense.

- The accelerated turnaround times. For example, I respond to e-mails within no more than 12 hours. I respond to discussion board postings within no more than 24 hours and I return assignments graded within 48 hours.
- The lack of personal interaction and synchronous exchange of ideas.

What advice do you offer future online educators?

- Decide what the right fit is for you—working for several schools as an adjunct or for one school fulltime. If teaching is not your passion, choose another profession. Teaching online is not easy money and you shouldn't choose it for the paycheck.
- Be persistent—online teaching opportunities can take many months to develop.
- Know your professional material as well as educational theory.
- If you have previous onground teaching experience, know that there is an element of releasing control when moving to the virtual classroom. The result of teaching an online class with the same approach as teaching onground can feel like utter chaos. Patience and persistence is required.
- Online programs vary in structure and degree of freedom allowed. Find a university that fits your personality, teaching philosophy, and style.

As the economy is slowing, what change do you expect to see in the profession of online education?

 Schools are trying to "find a niche" to keep and retain students. They are recruiting only the best teachers and not settling for mediocrity. I think we will see more people going to school online and that this field will have growing demands. Job loss, as bad as it is, often results in more people turning to education.

- More people will seek a degree to increase their employability in the future.
- Online education is growing as the economy slows.
- If financial aid is available, online enrollments will increase. As more digital natives become adult learners, we will find an increase in the number of people that have an affinity to online learning.
- I expect the competition for faculty jobs to increase. This means that both professional and academic experience will become more important. Individuals with executive experience, doctoral degrees, and publications will have an edge.

Online education is not a fad. Enrollments in online higher education have seen an average annual increase from 2002 to 2007 of 20% while the total higher education student population has grown at an average of 1.5% annually during the same period (Allen & Seaman, 2008). Further, based on the research of Allen and Seaman, over four million students are taking online classes this year. Many educators support online courses and see them as critical to the future of learning. Also growing is the number of traditional onground institutions offering online programs.

Online enrollment growth has largely been spurred by increased time constraints on adult learners who are balancing career, family, and the need to further their education in an ever-changing workforce. Online educational programs provide flexibility for these adults whose schedules and responsibilities prevent them from attending a traditional program with fixed class dates or who do not wish to commute to a physical school. Additionally, many learners find their online classes to be of more value than their previous onground experiences because of the increased collaboration with peers and teachers.

A frequent question is what impact the worsening economic conditions will have on historically increasing online education enrollments. Traditionally, poor economic times have seen an increase in the number of people seeking education. Recently, some state schools have had to slash budgets and decrease enrollments because of funding problems associated with state budget crises (Pugh, 2008). At the same time, students are choosing to attend lower-cost schools, with enrollments at many community colleges on the increase (Porter, 2008). Cost-effective online programs will continue to see rising enrollments as long as financial aid remains available. If aid tightens, we will likely see enrollments reduce.

When asking educators who have experience both onground and online, they often express that the two are completely different worlds. Moreover, onground teaching is not adequate preparation for online teaching. Of course an obvious distinction between the two is the use of the Internet and computer technologies to completely conduct an online class virtually (Ko & Rossen, 2004). However, much more important is the distinction in learning theory. A clear paradigm change has occurred in the quality online programs, shifting from teacher-focused to learnerfocused education. Although this shift is taking place in some onground classrooms, as attested to by the valuable research of Bain (2004), it is the expected approach in online education (Palloff & Pratt, 2003). A few key distinctions between the old paradigm and the new paradigm are presented in Table 1 (adapted from Huba & Freed, 2000, p. 5).

In summary, this shift can be explained by the often-quoted role of the online teacher as "guide on the side" rather than "the sage on the stage."

Teaching online is difficult to break into because online programs frequently require prior online teaching experience. Quality programs are looking for proven teachers who understand the online environment and why, out of necessity, it differs from onground structures (for an account of one professor's experience moving from onground to online, see http://insidehighered.com/views/2008/11/ 06/overman). Existing teachers who want to explore online teaching and also gain experience can add online elements to their onground classes and create a hybrid experience. For example, free tools such as Google Groups can be used to create a private online discussion area for students to asynchronously collaborate. Many teachers have successfully converted onground courses to online courses; one example is Hensley's case study that includes suggestions for converting courses (Hensley, 2005).

Table 1. Different Teaching Paradigms

Old Paradigm (Teacher-Centered)	New Paradigm (Learner-Centered)
Teacher transfers knowledge to students	Knowledge is collaboratively constructed by students and teacher
Students are passive recipients of information	Students are active participants in the learning process
Knowledge transfer occurs separate from the context in which it will be used	Students provide real-life contexts for knowledge discovery and construction
Teacher is primarily a provider of information and an evaluator	Teacher is a coach and facilitator
Assessment is often indirect by using objectively scored tests	Learning is assessed through discussions, papers, projects, and the like

Online educational programs are fundamentally looking for learner-centered teachers. If a school considers someone for an online teaching position, it is likely that they will first be required to complete a faculty development program conducted by the school. Although each school does this a little differently, often prospective teachers can expect to review learnercentered teaching theory, school policies and expectations, and the specifics of conducting a class in the school's learning management system. This faculty development experience is also a prolonged interview that contains activities to gauge your capacity to be learner-centered. For example, it is common to have exercises that require participation in discussions and providing feedback to fictitious students' assignments.

Teaching online also requires the proper mix of academic credentials and professional experience. Master's degrees are generally the minimum required and some job postings will specify that a terminal degree is needed. Also important is the professional experience a teacher can bring to the classroom. Since the teacher is acting as a coach and facilitator while learners are discovering knowledge, professional experience is required to put the information in real-life contexts and to help students do this for themselves. It is also observed that more schools are seeking to compete at a higher level and asking or requiring faculty to participate in their professional community by conducting research and publishing contributions-not unlike tenure track requirements for traditional schools, but without the tenure track benefits. Both accreditation requirements and competitive pressures are driving this trend.

Online educators need academic credentials, applicable professional experience, and a learner-centered philosophy. Of course, different programs have their own emphasis. For example, a college extension system offering classes in photography, retail management, or hospitality management is more likely to emphasize professional experience over academic credentials. They also provide someone a good opportunity for gaining experience as an online teacher by leveraging prior professional experience, even if the person has not taught before.

To help someone prepare to teach online, a number of teaching certification programs are available. Each has its own focus and participants need to consider their plans and needs before selecting a program. For example, if the desire is to be an instructional designer, then choosing a certification program that focuses on instructional design is important. If the focus is teaching, then a program such as the University of California, Irvine Extension's "The Business of Teaching Online" (UC Irvine Extension, 2009) is an excellent choice. UC Irvine's program prepares onground teachers as well as those without prior teaching experience to be learnercentered online teachers, to know what to expect in the virtual classroom, and to excel in the profession.

Online schools find their teachers in a similar manner as other professional careers by using job postings and networking. Popular job posting sources include those used by all professions (www.monster.com, www.careerbuilder, etc.) and those specific to education (www.higheredjobs.com, www.chronicle.com/jobs, www.facultyfinder.com, etc.). Networking can be pursued by taking an online teaching certification program, participating in online teaching conferences, joining professional discussion groups, and visiting blogs. Some preferred resources include: Multimedia Educational Resource for Learning and Online Teaching (www.merlot.org), OnlineTeachingJobs Yahoo Group (http:// groups.yahoo.com/group/OnlineTeaching-Jobs/?v=1&t=search&ch=web&pub= groups&sec=group&slk=2), Teach Online (www.teachonline2008.blogspot.com), Online Adjunct Jobs (www.onlineadjunctjobs.blogspot.com), and Make Money Teaching Online (http://www.teachonline-book.com/index.html). However, these are only a small sample of the many high-quality journals and Web sources available to current and would-be online teachers, including the *Distance Learning*. A few quick Web searches will uncover a dizzying number of resources.

A number of factors suggest that online education will only continue to grow. Although the history of online education has blemishes, with some schools closing from financial pressure, diploma mills dragging down the reputation of quality online programs, and employers at times questioning the value of online programs, the enrollment growth is hard to ignore. The online higher education market is on the order of \$10 billion (extrapolated from Shapiro, 2007). Many traditional onground schools have created online offerings, with more expected to enter. Quality state schools, such as the University of California, Boston University, and Colorado State University, to mention only three, have created online offerings, providing credibility to the online learning model and evidence of the growing demand.

A generational convergence is underway that will only add fuel to the online learning fire and spur it to even faster growth. Gen Y is technologically sophisticated, natural at multitasking, adept at virtual communications, experienced at collaborating, and accustomed to working with their peers to accomplish tasks. This is an ideal profile for online learners. As Millennials consider options for furthering their education, they will be the ones pushing the future of the virtual classroom.

In conclusion, online teaching is not for the weak hearted. It is demanding and at times tiresome work. However, the schedule and location flexibility is hard to beat. Most importantly, it provides an opportunity to positively influence people that we would otherwise never be able to meet. Personally, the most rewarding aspect of teaching online is having a positive and meaningful impact on people wishing to improve themselves.

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# Florida Virtual School Paves the Way in Distance Education

### Mike Findley

### HISTORY AND MISSION OF FLORIDA VIRTUAL SCHOOL

lorida Virtual School (FLVS) has experienced remarkable success since it began in 1997 with only 77 students. The most recent student enrollment data projected FLVS to enroll 100,000 full and part-time students for the 2007-2008 school year. This remarkable growth serves as a model for other states wishing to duplicate one of the nation's largest virtual high schools (Johnson, 2007).



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In 1997, two Florida counties, Orange and Alachua, were awarded the "Break the Mold" grant that approved funds for innovative teaching and online learning. This progressive initiative helped pave the way for Florida to become the first statewide Internet-based public high school. Florida Virtual Schools pulls its student population from a variety of sources, with 75% from public school, 20% home school, and 5% private school (Executive Summary, 2008). Today, FLVS not only serves all 67 Florida districts but also students, schools, and districts around the nation. Some examples of nationwide districts involved include Monmouth Ocean Educational Services Commission, Appleton Area School District and Kiel School District, Wisconsin; West Virginia Department of Education, and the Alabama Department of Education (FLVS Facts, 2008).

Florida Virtual School is built upon the notion of providing personalized instruction for students. Emphasis is placed on offering courses that are interesting for the student and can be completed at an individual pace. This is evident through the mission statement of FLVS that has a "commitment is to deliver a high quality, technology-based education that provides the skills and knowledge students need for success in the 21st century" (What We Provide for Students, 2008). To accomplish the mission, FLVS is structured around the idea that every student is unique and that

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learning must be flexible, engaging, and dynamic. This dynamic instruction will occur in an integrated learning environment with parents, students, community members, and schools all sharing responsibility for learning. This responsibility can only occur when students are given choice in their learning along with knowing how to present and use what they learn. When students can present and use what they learn it demonstrates the success and challenges that must be examined to improve the implementation of future instruction and curriculum design (What We Provide Students, 2008).

### **FACULTY**

Florida Virtual School employs 530 full time and 29 adjunct teachers who live in the state of Florida and throughout the nation. These FLVS teachers are certified in the subject they teach and possess a valid Florida teaching certificate (FLVS Facts, 2009). To help keep teachers innovative, FLVS rewards teacher for their achievements in the classroom. Per-student bonuses are awarded to teachers who exceed minimum set requirements for student performance. Meeting these requirements is aided by the professional development and support programs offered by the school (Johnson, 2007).

New teachers receive "just in time" (p. 3) mentoring and lasts for the duration of their first year. This mentoring is provided by experienced FLVS teachers. Instructional supervisors oversee both new and veteran teachers and are present to monitor both teacher and student progress. These supervisors can view all aspects of a course from when the last set of papers were graded or the last time a phone call home was made (Johnson, 2007). The mentoring, teacher specific data feedback, and ongoing training has been welcomed by the teachers at FLVS. A turnover rate of less than 3% demonstrates that teachers are willing to accept an annual contract while giving up tenure for performance based evaluation (Johnson, 2007). Besides providing high quality instruction, FLVS also demonstrates leadership through the many research opportunities they offer.

The dedication to future research demonstrates the progressive stance of FLVS. Florida Virtual School has many areas of research interest. Primary areas of research include the use of multimedia like Flash, Podcasts, Wikis, or blogs into online courses. The importance of diagnostic assessments to support online and communication systems also holds possibility for FLVS. In terms of student success, FLVS is interested in ways of assessing student achievement through the connections between online learning and college success or the success in a home school environment. Research areas of interest for professional development involve examination of teacher training and support or finding techniques that work best with middle school students (Research Opportunities with FLVS, 2008). With the many areas of research, it is evident that FLVS is determined to provide research based quality instruction to all students.

### **GED PREP AND ADULT EDUCATION**

Besides offering middle school and high school students' online learning opportunities, FLVS also offers GED and adult education courses. These courses are designed to be appealing to adult students who wish to work at their own pace but are unable to utilize traditional GED classes. The self-paced instruction does provide instructor interaction with lessons in writing, literature, math, science, and social studies.

### FLORIDA VIRTUAL SCHOOL AWARDS AND RECOGNITION

As a leader in online instruction, FLVS has received numerous awards at the state, nation, and international levels. Most recently, FLVS received the EdNet Pioneer

award. This award is given to those who move the business of education forward while addressing the challenges faced by schools who prepare students for the twenty-first century workforce. This was not the first EdNet award, as FLVS received the 2006 EdNet Impact award. FLVS was also a 2004 finalist in the EdNet Hero award.

Florida Virtual School was also received recognition by winning the 21st Century Best Practices Award from the United States Distance Learning Association (USDLA) in 2005. This award is the "highest award USDLA bestows upon distance education organizations, recognizes distance learning organizations for the innovation and excellence" (Current Events, 2008, p. 3). The USDLA has also recognized FLVS in 2003, with Executive Director Julie Young being inducted into the USDLA Hall of Fame along with other organizational awards recognizing excellence in programming and teaching (FLVS Awards, 2008).

Outside of the educational spectrum, FLVS has been recognized by *BusinessWeek* magazine as one of the web Smart 50 top organizations. FLVS shared this honor as "cutting edge" with companies such as Wal-Mart, Dell, P&G, and Cisco (FLVS Awards, 2008).

### COURSE OFFERINGS AND DELIVERY OF INSTRUCTION

Florida Virtual School courses are delivered over the Internet through a variety of Web-based and technology-based delivery formats. Access to traditional resources is also available and aid in the learning process. Communication between students, parents, and teachers occurs on a regular basis through e-mail, telephone, online chats, discussion forums, and instant messaging (FLVS Facts, 2008). The varied online format allows for the successful delivery of over 90 courses, from GED to honors and Advanced Placement (AP)

level courses. Courses range in topic from business technology, health/physical education, English, art, social studies, math, science, to drivers education (Course Offerings, 2008).

All FLVS courses are transferable and are accepted for credit. FLVS is accredited by the Southern Association of Colleges and Schools (SACS), and all courses are NCAA approved (FLVS Facts, 2008). With accreditation and many course offerings, FLVS also must have a firm student placement policy. The priorities established by FLVS and the state of Florida include first preference for placing students who attend low performing public school, rural public school, a high minority school, or students who wish to graduate with only one semester remaining and need only one course. Prerequisites also exist for certain classes based on age or grade levels (Placement Priority Policy, 2008).

### **OVERVIEW OF LEADERSHIP**

Providing an excellent instructional model and recruiting and retaining high quality staff reflects the leadership structure of FLVS. President and Chief Executive Officer Julie Young has led the organization since 1997. Her visionary leadership has guided FLVS into becoming one of the largest providers of Internet-based courseware in the world. Her role has led to many awards and recognition including induction into the USDLA Hall of Fame in 2003. With a faculty of 600, along with the accompanying support personnel, FLVS continues to provide the positive future direction and leadership for online learning (FLVS Staff Profile, 2008).

Young has been successful by creating influential policy instead of being bound by the typical bureaucratic school system structure. The driving force has become meeting the demands and needs of students along with following state standards. For instance, FLVS did something most districts do not; it got feedback from students.

This feedback was valuable in restructuring of programs that had a student completion rate of 50% to around 80% (Johnson, 2007). The spotlight has been on FLVS, and under the leadership of Young the school has been able to exceed expectations. This can only be accomplished through teamwork at all levels.

FLVS's Chief Learning Officer is Pam Birtolo, who helps to ensure that e-learning continues to provide individualized content through more in depth interactions (Johnson, 2007). Mark Maywell is chief governmental relations officer, Linda Peters is chief human resources officer, George Latimer is chief financial officer, Henry Boekhoff is chief financial advisor, Jay Smith is chief development officer, and Andy Ross is vice president-global services (FLVS Administrators, 2008).

This strong leadership team has adopted a business management model and has worked closely with outside business. Through a strong partnership with IBM, FLVS has been able to take a leadership role and contribute to industry while benefiting from the business expertise provided by IBM. This business expertise is critical for a field dominated by educators. The close partnership has allowed FLVS to become a key player in the e-learning market (Johnson, 2007).

Besides business partnerships, working with government funding and legislation can be seen as a barrier to the process. Fortunately, Young and her staff have been able to navigate successfully through the process. One of the biggest challenges Young has faced deals with the benefits of online learning and conflict that exists with school districts and their perceived levels of local control. To overcome this hurdle, Young and the FLVS leadership team were able to become the first school to be funded strictly based on student performance. Working closely with state legislation has allowed FLVS to guarantee free access to all students in Florida, which has become a vital part of the school's success (Johnson, 2007).

### **STUDENT CLUBS**

Besides offering high quality, rigorous educational programs such as Advanced Placement, FLVS also encourages students to become active in a variety of student clubs. The FLVS International Club offers students the ability to broaden their global horizons. The club is designed to promote an understanding of diverse cultures, languages, and heritages, and offers opportunity for international field trips.

On a "local" scale, the Newspaper Club takes advantage of technology and provides students with the chance to take part in a high school newspaper. One thing the newspaper may report on is an activity of the Science Club. The Science Club promotes many activities and projects from a Virtual Science fair to various conservation activities.

The History Club provides students with access to historical discussion groups, authors, and books, while the Junior Classical Language Club, otherwise known as the Latin Club, provides opportunity for students to compete against others around the state.

The Future Business Leaders of America (FBLA) is available for business students who are interested in careers in business leadership. FBLA offers students many opportunities to travel, compete, get scholarships, and serve the community.

At the Spanish National Honor Society, club members promote understanding of Latino and Hispanic interests. The National English Honor Society provides a service project to upperclassmen to help sophomore English FLVS students. With the variety of student activities, FLVS provides levels of involvement that binds students together which is helpful in providing a positive learning experience (Student Clubs, 2008).

### FLORIDA VIRTUAL GLOBAL SCHOOL

Besides offering quality instructional programs to students of Florida and the nation, Florida Virtual School Global Services has also been established to meet demands in the worldwide market. The Global School provides high quality instructors across the United States who are certified in the subjects they teach. The school provides opportunities such as expanded curriculum choices, choices for homebound students, flexibility in scheduling, and an alternative to make up credit (Florida Virtual School Services, 2008). These services are provided to students through several means.

First, high quality communication keeps progress up to date between parents, teachers, and students. The progress in a course is based on high quality instructional management. With the focus on stuachievement, standards dent expectations are set high. Support is provided to both students and teachers to ensure this occurs. Besides academics, the Global School provides opportunity for extra-curricular activities. Examples include the Science Club, FBLA, Newspaper Club, or various activities such as College Hub Webinar to the World Hunger Forum. These activities help to foster student interaction along with peer tutoring or involvement in the Socratic Café.

### CONCLUSION

With such diverse offerings, one is left to wonder if the word "virtual" is the best fit to describe this dynamic online high school. FLVS has become an established part of the educational system in the state of Florida. The school has shown its potential and that has been harnessed under the strong leadership of Julie Young. Young is not alone in this quest. FLVS succeeds because it is based upon sound research with instruction carried out by quality

innovative teachers who are able to connect with their students effectively at a distance

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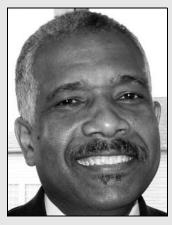
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# Pioneering the Use of Learning Management Systems in K-12 Education

Ezra E. Hill, Jr.

### INTRODUCTION

n the Baltimore City Public School System (BCPSS), many of the teachers, administrators, staff, and students are using the district's learning management system (LMS) as a part of their daily practice. The Teacher Student Support System, or TS<sup>3</sup> as it is now called, unites the entire professional learning community across the district. TS<sup>3</sup>, which is powered by Blackboard, loads a portal page that offers quick links to the Maryland State Department of Education (MSDE), the BCPSS



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intranet site, the BCPSS Technology Plan, the district's Media Center catalogue, Discovery Education/Unitedstreaming, the BCPSS Master Plan, and a plethora of network resources.

Andres Alonso, the system's chief executive officer, uses TS<sup>3</sup> to communicate with the staff through weekly and monthly newsletters. The BCPSS school calendar and other circulars are also offered as links. There is a tab for and links to educational opportunities. Other information, such as grant opportunities, surveys, and pertinent announcements are also featured. The "See What's New" section keeps users abreast of recent developments in BCPSS. TS<sup>3</sup> "Users of the Week" are featured with a digital photo and a link to their personal testimony. Other BCPSS publications are featured, as well. The Parent Portal is the portion of TS<sup>3</sup> that provides access (for parents) to student courses, resources, and grades. The uses of TS<sup>3</sup> are limited only by the imagination of its developers.

The vision began with Bert Ross, the manager of the LMS, about 10 years ago. He received a federal Technology Innovation Challenge Grant and set out to, as he says, "create an electronic learning community so that teachers could break out of their walled classrooms and share resources across the district" (in Shein, 2008, para. 2). His efforts led him to Blackboard, a platform that offered the ease and functionality that Ross required. The proj-

ect was aptly named "the Teacher Support System," or TSS. It was piloted with a group of six middle school teachers. Its eventual success led to its growth into every grade level and into every school. Today, the district uses the LMS to post 27,00 classes online for 83,000 students and 6,200 teachers. More than 2,500 Baltimore city teachers currently use TS3 at least twice a week. Teachers use TS<sup>3</sup> to post announcements and to disseminate assignments and resources. Some teachers use the Discussion Board feature and the Digital Drop Box. The assessment feature allows teachers to post tests and quizzes that are automatically graded and entered into the online grade book. The latest, upgraded version (Blackboard 8) even allows for blogs, podcasts, and wikis. Through TS<sup>3</sup>, educators and students are offered the opportunity to receive professional development and training online. This service is delivered through a multitude of resources, including print media, audio, and video.

Michael A. Smith, a functional analyst and BCPSS TS<sup>3</sup>/Blackboard guru, considers himself to be a Bert Ross disciple. Smith says that TS<sup>3</sup> is "mission critical" (in Shein, 2008, para. 7) to the district's operation. He adds, "It's a one-stop shop. Teachers can plan a lesson, see the curriculum, store and obtain resources, engage their students, be notified of upcoming professional development, get informed on happenings in the district—they can do it all packaged at this one location." As a former math teacher, Smith has seen the system's potential and benefits firsthand. He adds, "It was a way for me to share information without having to run to 20 different machines." He also found that this platform served to motivate his students. "In a typical algebra classroom" he says, "if you ask a question you may get one or two hands. By using the discussion board or chat feature associated with this application, you may get 100 hits within 15 minutes. It is student-to-student learning. You become the facilitator

and not the person who has all of the knowledge. If you use this technology in the way students are accustomed to, you get the desired outcome."

Ross indicates that anecdotal accounts from teachers in his district indicate that the environment in the classrooms of teachers who use the LMS is superior to what is reported in nonparticipating classrooms. He states that, "The climate of the classroom is better, the attendance of the teachers and students is better, and the overall feeling of being engaged is better."

Technology is seen as playing a vital role in meeting the needs of the broad range of abilities, disabilities, cultural backgrounds, and ethnic populations represented in this urban school district. To this end, the District Information Technology Plan provides an action plan for the integration of technology into the curriculum, instruction, and the workplace (District Revised Information Technology Plan).

It is the vision of the district that the seamless integration of technology into all schools will lead to increased student achievement. State-of-the-art instructional technologies, combined with effective and appropriate teaching strategies that are supported by the appropriate levels of professional development, will work to ensure that students are engaged, motivated, and participating in dynamic and challenging learning activities. It is the systems intent to enable all students to become independent, competent, and creative thinkers, as well as effective communicators and problem solvers (District Revised Information Technology Plan).

During the summer of 2006, the district began a program designed to empower teachers and administrators to infuse existing and emerging technology into their practice. The stated purpose of the Technology Integration Analyst (TIA) program was to address the staff development needs of all schools and to promote more effective and widespread uses of technology throughout the district. This initiative,

under the direction of the Information Technology Division (ITD) required the recruitment and training of a cadre of 24 TIAs.

The TIA program goals are as stated:

- 1. To achieve academic achievement through the use of technology;
- 2. To insure that students in elementary and middle schools are technology literate by the end of Grade 8;
- To insure that students in high school have increased literacy in the use of technologies in the world of work;
- 4. To encourage and model the effective integration of technology resources through teacher training; and
- 5. To ensure that all teachers are skilled in the integration of technology into curriculum in order to support academic achievement.

In order to access the Web-based resources of the district, educators must first login to the district's Web-based portal (TS<sup>3</sup>), then navigate to the desired resource and employ it. Some of the training and services provided by the TIAs include:

- 1. Use of the TS<sup>3</sup>, the district's Web-based portal for online information and educational resources;
- 2. Demonstrating building online courses, creating online assessments, and use of the online grade book, discussion boards, and the other electronic resources;
- 3. Learning computer basics;
- 4. Downloading streaming videos from Discovery Education/Unitedstreaming;
- Supporting the use of Yearly Progress Pro, Open Court Assessment RS, and Princeton Review programs for data collection and instructional applications;
- 6. Assisting with educational Web sites such as National Geographic Online, Channel One, and Thinkport;

- 7. Helping with software applications such as Photo Story/Windows Movie Maker, podcasting (RSS), Riverdeep Learning Village, and Softchalk;
- 8. Hosting technology showcases for the district;
- 9. Providing assistance with the suite of Microsoft Office applications;
- 10. Selecting hardware and software to support classroom instruction;
- 11. Integrating technology into instruction
- 12. Discovering new uses for technology tools or designing projects that combine multiple technologies; and
- 13. Focusing on cooperative, project-based, problem based and interdisciplinary work with technology.

The infusion of educational technology is changing the face of education. Much of the change is driven by computer-based technology that facilitates and supports student achievement of essential learning outcomes, provides students with appropriate technology literacy skills for the twenty-first century, enhances opportunity, closes achievement gaps, promotes social equity and prosperity, and provides parents, community members, and staff with the tools and training necessary to support student achievement of essential learning outcomes. In the ways mentioned above, technology enhances content, processes, and relationships in a variety of ways in our learning environments. Modern classrooms are now equipped with computers, Internet access, video projectors, graphing calculators, wireless/Bluetooth technologies, interactive whiteboards, video visualizers (document cameras), and other software applications. Teachers and administrators must be empowered and trained to effectively utilize the instructional, as well as the data/information management applications, of computer-based technology.

Researchers suggest that integrating technology solutions into the classroom may have a major impact on students' academic achievement. Other studies show

that students whose teachers participate in professional development activities related to computers outperform students whose teachers did not (Zehr, 1997). Technology solutions will assist teachers in developing the "intellectual capital" of our system. Professional development activities will lead teachers and administrators to increase their productivity, enhance their ability to integrate technology, and establish communities of leaders and life-long learners (BCPSS, n.d.). In spite of the successes of the TIA program, the goals and directives of the Information Technology Plan, and the purport of the research findings, the TIA program was devolved (or discontinued) in the spring of 2008 due to budgetary constraints. However, the spirit, mission, and vision of the project lives on.

Blackboard, Inc. has recently released a national report that examines the data collected through the online Speak UP surveys, which were conducted in the fall of 2006. The report is titled, "Learning in the 21st Century: A Trends Update." The 2007 findings show that "over 41% of students believe that online classes will have the greatest positive impact on their learning" (p. 2). This reflected a growth of over 20% from the 2006 data findings. The 2007 data alludes to an "explosion" in familiarity with online learning. Responding high school students registered "an 80% increase in the familiarity with online learning" (p. 2). In addition to this, more than "1/3 of responding teachers say that they have explored opportunities for integrating online learning into their classroom. Twenty-six percent of teachers (in 2007) chose online learning as their first choice for training" (p. 2). From the Blackboard site, "over 88% of administrators say that the effective implementation of instructional technology is core to their mission and 84% believe that technology use does indeed enhance student achievement" (p. 4). The Blackboard corporation sees itself as empowering "K-12 schools and districts to focus on powered learning:

connected, personalized teaching and learning that expands opportunities for all learners anytime, anywhere.... Each day over 12 million learners around the world use Blackboard solutions to support a 21st century educational experience that is engaging, individualized, and effective" (p. 4). The usage trends for online education and distance learning are clearly positive.

Every teacher, administrator, and student (in BCPSS) has a unique login with TS<sup>3</sup>. When they log in, they are greeted by their name and welcomed to their customized home page. To the left are the Tools and Links. Alonso's newsletters, handbooks for training, and other procedures are featured under this section of the portal page. The organizations to which one belongs (or leads) are presented front and center. Courses in which one is enrolled or teaching are displayed as well. This front page is customizable and the display can be modified to suit the user's preferences. This design is customizable in terms of both color schemes and content.

The home page has seven tabs, located horizontally, across the top. The first tab, "TS<sup>3</sup>" takes one to the home page. The second is for the "Content Collection." When this tab is clicked, users are able to access their online storage. Every educator is provided with 150 MB of online storage and every student is allocated 50 MB. The third tab is for Student Resources. When this page is opened the Digital Library and the Online Resources for students are made available. The digital library includes Pro Quest Learning Literature, Pro Quest, eLibrary science, eLibrary Curriculum Edition, Pro Quest Platinum, SIRS Knowledge Source and Discoverer, Black Studies Center, Historical newspapers, History Study Center, Culture Grams, and Science Resource Center. The online Resources for students include Encarta, Mathematics (Scott Foresman), BCPSS Library Catalog, Library of Congress, ChannelOne.com, Young Audiences Arts for Learning (Maryland), Our documents, refdesk.com, Discovery Education, The Beehive, College Board, and Tips and Tricks for Using the Internet. The page is also customizable.

The next tab is for Courses. Here, the course list for the user (with the associated course leaders) is displayed. To enter any of the courses, one need only click on the active link. A Course Catalog is also presented on another section of this page. The next tab, T/PQ (Teacher Principal Quality) provides for professional development and professional growth opportunities. The Professional Development calendar is here, as are other PowerPoint files for instruction and training. The Resources tab is next. It has all of the student resources plus Teacher Tools and Educational Links. The Teacher Tools are 4Teachers.org, Tools for Teachers, Rubistar, and Web Poster Wizard. The Educational Links section provides links to MERLOT, Chesapeake Bay and Mid-Atlantic from Space, the Maryland State Department of Education (MSDE), and Teacher Created Materials. The BCPSS LV tab provides access to the Riverdeep Learning Village Application. Unit Plans, lesson plans, Resources, and Standards are shared here, across the district. Next, the Videos tab gives access to links for professional development and other pertinent topics that are presented in video format. Opening the Assessment tab helps teachers to clarify and gain insight into testing procedures. Help for and information about the Maryland School Assessment (MSA), Stanford 10, and OARS are included here. Finally, the Registration/ Evaluation tab serves up links for evaluations and (workshop) registrations.

When a teacher clicks on a course that he or she is teaching, the course opens to the entry page. A basic shell of a course is provided by default. By entering the Control Panel (on the left), the teacher can build and modify his or her online course.

Teachers are encouraged to create a course banner that welcomes students to their site. Also, teachers are trained to customize their online courses by choosing color schemes and creating the course content area buttons. The content areas may include Assignments, Homework, Resources, Assessments, Course Syllabus, and so on. Once the content areas are created, it is a simple matter to post or attach documents and other files to them. Announcements are easily made to the entire class. Students may be required to view a video, take an assessment, or to visit a Web site. By using TS<sup>3</sup>'s online grade book, teachers provide students and their parents with 24/7 access to the student's course documents and grades. TS<sup>3</sup> is a work in process and the educators of BCPSS are helping to pioneer the usage of course and learning management systems in K-12 education, today. The TS<sup>3</sup> site can be found at http://www.bcpss.org

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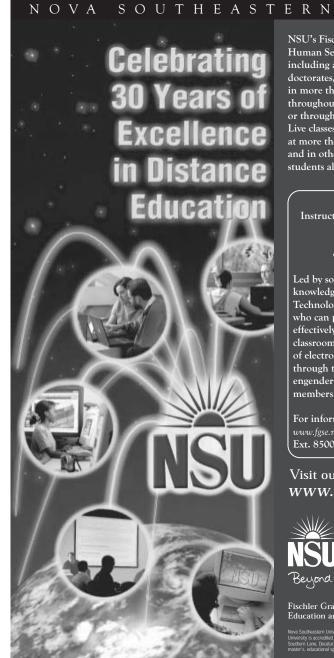
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# The Student-Teacher Digital Divide and Six New Technology Roller Coaster Rides

### **Lester Towell**

y first encounter with the Beloit College Mindset List was in 1998. Reading the worldview of students 15 years younger was amusing, but not alarming. Over the last decade the gap has widened considerably. The latest list includes such items as, "MTV has never featured music videos" and "Avatars have nothing to do with Hindu deities" (Nief & McBride, 2008).



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Scary. At one time I remember explaining that the read/write head of a hard drive was similar to the arm on a record player. Today I would be more likely to use the read/write head on a hard drive to demonstrate how a record player was used. The digital divide between what Prensky (2001) coined as the "digital natives" (students) and the "digital immigrants" (faculty) is widening at an increasing rate. As Prensky noted, "the single biggest problem facing education today is that our Digital Immigrant instructors, who speak an outdated language (that of the predigital age), are struggling to teach a population that speaks an entirely new language" (p. 2).

The increasing digital gap is apparent in many digital markers. The first commercial text message was sent only 16 years ago. eBay was founded 12 years ago. Google came out of beta 9 years ago and yet currently has more than 135 million U.S. visitors each month, creating over 2.7 billion unique searches, staffed by more than 10,000 people worldwide (Google, 2008). YouTube serves over 3 billion videos each month (Yen, 2008). The total volume of digital information is doubling every 2 years (Gantz, 2008). We are currently educating students for jobs that do not yet exist, dealing with technology that has not been invented, to solve problems that we are not even aware of yet. As digital immigrants, we teachers are increasingly teaching in a nonnative language. The long-term solution may be to wait for a new generation of digital educators, native speakers who cannot remember the fall of the Berlin wall or the rise of Walmart. In the interim, faculty must continue to ride the digital roller coaster that is technology in education.

A quick survey of the digital horizon reveals a host of potential technologies ready to explode into educational environments. Webware, mobile broadband, collaborative workspaces, video capture, video sharing, social operating systems, community tagging, geotagging, multitouch input devices, virtual worlds, immersive simulations, social networking, scholarly mashcollective intelligence, ups, open educational resources, and alternative interaction devices all show great potential in the next few years. How faculty and students view this list of educational technologies is disparate and widening. Students tend to embrace these new technologies (like Facebook) more quickly than do faculty, often on their first exposure. Faculty, on the other hand, may require multiple links to tools like Google Docs, Ning, and Swivel before adopting. The technology roller coaster may be a bit daunting; many twists and turns, rapid accelerations, unexpected drops, not to mention those that turn completely upside down. The following list of emerging technologies is designed to provide an additional link for faculty to turn anxiety-laden technology rides into exciting rides for both faculty and students. To that end, sit back, pull the safety bar firmly across your lap, relax, and enjoy the ride. The following list is a quick summary of general and specific technology tools and pedagogies that will impact education in the next 5 years.

### **INEXPENSIVE VIDEOS**

Starting with an area that has likely touched every discipline, the inexpensive

video (also grassroots video or multimedia video) arena includes video capture, manipulation, storage, and distribution. While most educators are aware that this phenomenon exists, the sheer number of available videos, and its continuous exponential increase, makes this one of the most engaging new technologies. Its full potential is obviously still untapped. With the proliferation of inexpensive video capture devices (like cell phones), free editing software, and ubiquitous wired and wireless broadband connectivity, almost anyone can author and distribute short videos. The 2008 Horizon Report notes that "the popularity of video is providing new outlets for creativity and enabling literally millions of individual voices to be heard" (The New Media Consortium & EDUCAUSE Learning Inititivae, 2008). Every event (whether major or not) is the potential target of multiple capture devices from multiple angles; with minimal training and almost no expense, virtually anyone can show off their creative flare.

To investigate the creation and use of inexpensive videos, a great starting point is "mashable.com." Mashable's video toolbox includes 150 various video mixers, converters, mashups, and video sharing sites to get started. One of the primary benefits of the inexpensive videos for universities is the access to free services, like YouTube, for hosting video content without infrastructure or equipment costs. Imagine the impact of creating a YouTube contest to design the best campus recruiting video.

### ONLINE COLLABORATION WEBS

Online collaboration tools that once cost thousands of dollars and required specialized expertise are now free (or nearly free) and may not even require installation. Swapping files, tracking changes, holding meetings, and editing group documents may now be performed from within most Web browsers. Educators have always relied on a strong network of collegial con-

tacts. With the advent of the Internet and universal browsers, the barriers of time and place have fallen and the contact lists have grown. Collaborating on projects from around the globe is now routine (The 2008 Horizon Report, 2008).

The Flat Classroom Project (http:// flatclassroomproject.ning.com/) is a great example of using online collaboration tools so that high school students can meet with their peers from around the world. Other standouts include Googledocs and Zoho Office; both include free office suites similar to Word, Excel, and PowerPoint in addition to workflow and collaboration software. There are also specialized-office collaboration software groups worth investigating: (1) for photo workflow there is Splashup; (2) for video workflow there is Jumpcut; (3) to present or publish presentations, use sites like Slide and SlideShare; and (4) social networking sites like Ning and Facebook are designed specifically to bolster collaboration. The various collaboration technologies make it extremely easy for educators and learners to share files, share interests, share ideas, work together on a project, collaborate in teaching, and communicate among peers.

### MOBILE BROADBAND

Mobile broadband is a marriage of mobile devices and near ubiquitous broadband Internet access. Mobile devices have evolved from the clunky portable phones of the 1980s and 1990s to miniaturized multipurpose devices capable of including cameras, audio recorders, video recorders, address books, calendars, Web browsers, news readers, document editors, photo albums, and music players, the purpose being to bring the Internet and other collaboration to our fingertips anytime, anywhere. Some examples of mobile broadband in educational environments are the Zone Tag project (zonetag.research .yahoo.com)—after taking a picture with a mobile device and uploading it to Flickr, Zone Tag can tag the photo with the current location. The Wiki City Rome project (senseable.mit.edu/wikicity/rome/), part of the Senseable City project at MIT, uses real-time data collection from mobile device sensors to track information about the state of the city and provide that information to mobile users.

As a direct measure of the infiltration of mobile broadband to campus life, Abilene Christian University became the first university to provide an iPhone (or iTouch) to all of its incoming freshmen in fall 2008 so student can "receive homework alerts, answer in-class surveys and quizzes, get directions to their professors' offices, and check their meal and account balances among more than 15 other useful Web applications already developed" (Abilene Christian University, 2008). With more than a billion new mobile phones being manufactured each year (Jaques, 2007), the continuous advancement and innovation, decreasing hardware and service costs, and the fact that almost all students in the U.S. already own a mobile device, extensive mobile connectivity in education is right around the corner.

### SECOND LIFE

Moving from the general technology rides to more specific technology rides, in the category of immersive learning environment Second Life is the 800 pound gorilla. More students are entering universities with expectations of experiential learning versus traditional lecture or discussion. They wish to be immersed in virtual worlds like World of Warcraft and look for learning in games, simulations, visualizations, and remote instrumentation. Second life is a virtual online world that began in 2003. Today it is the largest virtual world, with over 13 million registered users (EDU-CAUSE, 2008a). It has a real economy based on Linden dollars, but anyone can join for free. Second Life recently added voice over Internet protocol, which lets users speak to

one another via headsets and microphones.

Academic areas, such as journalism, foreign language, and multimedia uniquely suited to the immersion encouraged by Second Life. All disciplines may use the tools in second life to enhance the educational experience via virtual field trips and peer-created digital project presentations. In addition, the virtual world training itself will prepare students for the near future, when entities such as retailers, embassies, and even the Department of Motor Vehicles go online in 3D to satisfy customer interaction. The list of educational activities in Second Life is nearly endless. Artists have galleries, musicians hold concerts, poets read created works, authors display their latest creation, and counseling services are available with real therapists. Many colleges, universities, departments, and faculty have created a presence in Second Life for online courses as well as virtual campus visits, recruiting activities, and fund-raisers (EDUCAUSE, 2008a). The bottom line: Second Life offers a synchronous experience for geographically separated users to interact, and it can be used as an alternative for the real world for activities and research that may not be accessible in the real world.

### NING

Ning is an online application and collaboration site that facilitates the creation and association of social networks. Users may create and join as many networks as they like. Ning allows the network site creator to determine the site's appearance, functionality, and whether the site is public or private (EDUCAUSE, 2008b). The application includes toolsets for posting photos, videos, member lists, events, schedules, forums, and blogs. The most inviting features for faculty are: (1) it does not require technical skill to set up, (2) there are no limits to the number of networks a user can join or the number of members in a

network, and (3) the application has a decidedly academic slant to it. A quick search reveals a smorgasbord of educational topics with vast networks available: chemistry, physiology, communications, government, and many others.

As faculty, joining students in social networking sites like MySpace or Facebook might be seen as an invasion of privacy; with Ning, the same functionality is achieved with less intrusion and a decidedly neutral platform. As with Second Life, creating social networks around academic topics, specific projects, or an entire course can foster a sense of community. In addition, adding social networks may be used to strengthen the sense of community for incoming freshmen, for transfer students, for students at home on summer vacation, or even to connect student participating in a semester-abroad program. For universities, a benefit of increasing students' sense of community is an increase in student retention (Mabry, 2007).

### **MULTITOUCH INTERFACE**

While this ride may look a long way off, it will likely be in the classroom within the next four years. A multitouch interface is an input device that recognizes two or more simultaneous touches, allowing multiple users to interact with a computer simultaneously. Each user may use multiple digits to enter natural commands through various gestures on or near the surface. Several variations include the ability to sense temperature and pressure. Multitouch technology incorporates digital (as in fingers) interactions of swipes, pinches, rotations, and expansions to more naturally control digital (computer) content. Examples of the intuitive commands include the ability to resize a photo with two fingers (stretch and pinch) or rotate a video around one finger (pivot point) with a second finger. The multitouch interfaces create a digital approximation of interacting with a stack of printed photos or videos. As an indication of the trend to improve human-computer interaction, one notable attribute of this tool is the absence of a required manual or training. Further highlighting the gap between digital immigrants and natives is that this feature will likely be touted by faculty as an improvement, while students will assume that's just the way it should have been all along.

### **CONCLUSION**

In a world where considerable advances in technology are not only expected, but surpassed, the next generation of learners will undoubtedly be better digital language speakers due to the increased reliance on technology. They will have shorter attention spans, more digital connections, more personal connections, and fewer wired connections. Engaging faculty will incorporate a variety of media (audio, video, animations, and text) as varied in composition as in content (Windham, 2005). Merely presenting material and expecting native digital speakers to recite it back will not meet the needs of students who have never "rolled down" a car window. To maintain relevancy, the modern classroom will need to include more technology content and more technology pedagogy or it may fade like the land-line; students of the first digital generation use the term "off the hook" to refer to food, not a telephone.

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### Are Students *Today* Really Different?

### Natalie B. Milman

re today's students different? This is a question that I have ruminated much about, not only because I have been drawn into discussions with colleagues about "students today" and ways in which they are different from the students they have taught in previous years and decades, but also because I was asked last year to lead a



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workshop about "Today's Learners" for a school of business with two other colleagues. Usually when a discussion starts about "digital natives, digital immigrants," (Prensky, 2001), "Generation Next" (Kohut, Parker, Keeter, Doherty, & Dimock, 2007) or the "digital generation" (Montgomery, 2007), just to name a few terms used to describe different groups of people, I tend to shift the focus of the conversation from such monikers to the needs of learners and research-based, field-tested strategies that have demonstrated positive learning outcomes. I often do this because I find such labels problematic-it is important to recognize that a digital divide (Dickard & Schneider, 2009) exists and is more pervasive than many might like to even consider. And, I am not convinced learners are really any different—it is our society that is and the tools with which we have to work and communicate that are different.

Another challenge with assigning labels to learners today, whether they were "born digital" (Palfrey & Gasser, 2008) or not, is that these terms and their meanings do not accurately represent every individual that might fall into such categories. These terms are full of assumptions and biases that can seriously cloud an instructor's and employer's perception of an individual. Vaidhyanathan (2008) has written an

article in the *Chronicle of Higher Education* that raises a similar argument, as he notes:

Talk of a "digital generation" or people who are "born digital" willfully ignores the vast range of skills, knowledge, and experience of many segments of society. It ignores the needs and perspectives of those young people who are not socially or financially privileged. It presumes a level playing field and equal access to time, knowledge, skills, and technologies. The ethnic, national, gender, and class biases of any sort of generation talk are troubling. And they could not be more obvious than when discussing assumptions about digital media. (Vaidhyanathan, 2008, ¶ 9)

Therefore, it is important for educators at all levels, and employers and instructional designers as well, to recognize that while some individuals might fit the characteristics of various labels, it is critical to recognize that no matter the demographic, category, or term one might use to describe a group, an individual is, indeed, an indiunfounded assumptions and should not be made about him or her. In a virtual, distance learning environment, this takes on even greater importance, considering one does not have the opportunity for face-to-face interactions as one would in a brick and mortar setting.

While I am not convinced that learners today are different, I accept that it is possible that interactions with technology, and technology's influence on brain development might actually have implications which we have yet to discover or comprehend. For example, research on 24 adults by Gary Small, director of the Memory and Aging Research Center at the Semel Institute for Neuroscience and Human Behavior and the Center on Aging at the University of California, Los Angeles, shows that regular use of the Internet by these individuals created double the amount of signaling in their brains when compared to individuals who used the

Internet irregularly (Interlandi, 2008). Even so, it is important to keep in mind that research in this area is nascent; therefore, any generalizations about the implications and effects of digital technologies on the human brain without more research on larger and more diverse populations, is simply premature.

### SHIFTING THE FOCUS ON STUDENTS AND THEIR NEEDS

Whether one agrees with the notion that students today are different or not, it is imperative that educators, employers, and instructional designers shift their focus from "how students today might be different" to "how should I design instruction to meet the needs of my target audience" and "what do I need to change to meet the needs of my learners?" This does not mean adding gimmicks, the latest technology, or other "bells and whistles" to keep learners' attention or just to seem "current" or "innovative." Rather, it means making thoughtful, informed decisions about how to engage learners in the process of learning, accepting learners for who they are, understanding learners' strengths and weaknesses, helping them build on their strengths and diminish their weaknesses, and capitalizing on their "neomillenial learning styles" (Dede, 2005). It means putting learning and learners first, reflecting on what works and what does not, and changing instruction to meet the diverse needs of one's target audience-and not blaming individuals for being different than students one might have had 20 years ago.

New technologies will continue to challenge our assumptions about teaching and learning, not only for distance education, but also for face-to-face and blended (hybrid) learning environments. Are today's learners different? I do not think so (until proven otherwise), but the digital tools available today for learning, teaching, and communicating *are*. Just think—numerous technologies available as this

article goes to press did not even exist a few years ago!

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# Responding to Online Student E-Mails and Other Posts

### **Errol Craig Sull**

uring any online course instructors will receive many e-mails and other postings from students; each of these needs to be answered by the instructor, but how to do this is an art. Be successful at it and you will help keep your class engaged, excited about the

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course, and respectful of you; not knowing how to effectively respond, however, can lead to students dropping your course, not really interested in the class, and fed up with you as their instructor.

What follows is a miniguide to getting your online student response postings right each time. (The suggestions only apply to individual e-mails or postings a student sends you, not class discussion postings or the like that can be read by all in class—although you will find many items listed also apply to this latter category.) While these tips are comprehensive they are not fully inclusive, as each course may require additional guidelines; add yours to this list but keep all handy—they will assure you of smooth online responses ahead!

### GENERAL GUIDELINES FOR RESPONDING TO STUDENT E-MAIL AND POSTS

• The overriding guideline: Once sent, it can't be recalled. What you don't want to experience is an "Uh, oh!" or "I can't believe I sent that!" moment, so never

- respond to a student's posting to you hastily, overtired, emotionally, or not totally focusing on your message. Not doing so can result in information, tone, and/or vocabulary not appropriate—and possibly damaging to your reputation as an online instructor.
- Follow all school guidelines for responding to students. This is the umbrella guideline for all your online responses to student postings—your style, approach, vocabulary, tone, et cetera—must all be in sync with what your school dictates. Make a checklist of what is and is not acceptable by your school and check it over before you hit "Send"—especially if you are new to the school.
- Prrofread, PROOFFread, and PROOF-READ. It makes no difference the subject taught: your e-mails and other posts need be typo free, and the only way this is going to happen is by proofreading. Don't "dash off" a posting; rather, take the time to look it over: Are there any misspellings? Are all facts correct? Is your vocabulary at the student-appropriate level? Yes, this takes more time but it is your reputation on the line—and you want to do everything to keep it intact.
- Reread each e-mail and other postings you write before sending them. This goes one step beyond proofreading, for it reminds you to review your postings for content, tone, approach, and length. As with proofreading, this takes additional time but your postings make the umbilical cord that ties your students to you, and you to them—and you want that cord to remain strong.
- Be timely in all responses. Beyond following guidelines set by nearly all schools with online courses for when to respond, it is crucial simply because it is an online environment. Students cannot walk into an online instructor's office for a face-to-face talk; students do not

- have a set schedule knowing they will see an instructor each Monday, Wednesday, and Friday from 8-9 A.M.; rather, it is the timely interaction of instructors in response to student e-mails and postings that helps keep the instructors a vital force in the class and keeps the class engaging to the students.
- Be sure you answer all points students raise in their postings. Students' postings to instructors are their primary means to get questions answered and make comments. While many of these may have been covered in previous postings by you, each point must be covered, and in an upbeat, positive manner. Forgetting just one could have the student believing you don't care about him or her, something that can quickly weaken a course.
- Be sure to end any response with an invitation to the student or on a positive note. It's important that each response invite the student to contact you if more information is needed, if the student has additional questions, if the student needs additional input, and so on. This indicates you care about the student's progress in class and do not consider your response to be the final word to the student; it shows you to be an open, "I'mhere-for-my-class" instructor. And, if the student's posting doesn't require followup, be sure your response ends with a positive, upbeat sentence or two: instructor e-mails and postings always "taste" better with "sugar" on them!
- Do not delete any student postings to you. Save all student postings for three reasons: (1) To remind you of problems, concerns, and information related to the student; (2) For a trail of your actions in resolving student problems; (3) For any issues that may come up as a result of a student lodging a complaint against you. And do not delete these once your class ends; keep them for 6 months.

### RESPONDING TO VARIOUS TYPES OF STUDENT POSTINGS

- The bubbly, friendly, "I really like this class" and "You're doing a great job, teach!" student. All instructors enjoy students like this because they are upbeat, never offer negative comments, and generally follow all class guidelines. But two words of caution here: (1) Always respond to this student's postings in the same professional and upbeat tone as you would othersnever give the student any indication he or she is your "buddy" or that the class is better off or the like because the student is in it: writing something like this can quickly lead to charges of bias or favoritism from other students. (2) Read between the students' postings lines be sure the student is not complimenting you in an effort to curry favor or get some break in class.
- The confused, doesn't get it, "Hey, can you help me?" student. This student may be new to the online learning environment, a bit slow in "getting" all the rules of and assignments in class, or find your method of teaching much different from that experienced in previous online courses. Whatever the student's concern you need respond in a patient, sincere, "I'm-here-to-help-you!" manner, one that will have the student feeling more positive about the class after reading your response.
- The angry, ticked off, "It's your fault, teach"—when it's not—student. Begin with thanking the student for his or her concerns, then take a positive approach in detailing why the student might have the information wrong. Don't get defensive, don't show impatience. Go over each point the student raised, with detailed and clear points to refute the student's dissatisfaction points. Also, depending on what the student is saying in his or her post, you might want to make your supervisor aware of it.

- The justifiably upset, "You screwed up, teach" student. We all make mistakes, no matter how much effort we put into getting all aspects of our course right. When a student calls you on a mistake, own up to it and apologize (and take appropriate action, if necessary); let the student know you are as human as he or she and an occasional oversight does happen. You'll keep the student's respect for being honest and forthright—and use your mistake to make you a better online instructor.
- The disappointed in his or her efforts, "I really stink!" student. This student has most likely received a "slap in the face" because of a low grade received from you. It's important to let the student know what's most important is overall improvement in your class, that you don't expect students to master the subject in an XX-week course. Point out the positives the student has shown, offer additional assistance, and suggest resources your school may have to also help the student with his or her concern.
- The flirtatious, too friendly, "I like you more than a teach" student. Do not respond to any obvious flirtatious, "come on" text the student writes; rather, thank the student in a professional, upbeat manner for his or her compliment, then turn the direction of your student's posting to one of the course subjects. It is important to invite the student to contact you again—not doing so can trigger an unwarranted vet real feeling of rejection in the student, opening the possibility for the student saying or doing something that can hurt your reputation. But be sure this invitation relates only to the course subject.
- The always-late-with-assignments, "I know you won't believe me, but ..." student. We've all had these students: excuse after excuse as to why an assignment is late or not completed. Often, the school has set policies on student

excuses and these can be quickly used, but when these are not available and the student has a habit of making excuses tell him or her that a legitimate doctor's note or the like must be sent to you; additionally, you should build in a late/missed assignments policy in your syllabus (if the school does not have one). If the call on this problem is yours it must be one you make with sympathy yet judiciously, it must be a response that is patient and upbeat yet also professional and no-nonsense.

Two tips to augment your written responses:

1. **Phone.** If your school allows instructor/student phone contact use this—

- but only as a secondary method (after your written postings). A call or two to students during the course can help strengthen the student-instructor bond and assist in resolving student problems.
- 2. **MP3.** Leaving MP3 audio files for your students can be very productive in explaining what you find difficult to fully explain in writing; it can also serve as an aid in keeping students engaged.

REMEMBER: Waves break and disappear, food is eaten and gone, voices go still and there is silence—yet the written word remains forever alive.

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### Research Symposium—Call for Papers

### THEME

"The Evolution From Distance Education to Distributed Learning"

The third biannual Association for Educational Communications and Technology (AECT) Research Symposium seeks proposals for sessions designed to advance research and practice leading to the creation of a new model for Teaching and Learning at a distance.

Specifically, the focus of the symposium is to identify research-supported ways to move distance education away from the established "classroom adapted to the Web" approach and toward a paradigm of learning that is built on foundations of distributed cognition and similar frameworks. The outcome of the symposium will be to promote an agenda for practice and for research that will lead to a unique view of distributed learning.

It also the intention of the symposium to not only draw participation from academics in the field of instructional technology, but also to include the perspectives of experienced practitioners from areas that are concerned with technology applications that might be adapted to distance education. For instance game designers, e-commerce specialists, human factors researchers, educational psychologists, sociologists and those involved in other closely related fields such as learning science and informatics are encouraged to submit proposals. Proposals from persons working in the commercial areas of distributed education are also welcome.

### **OVERVIEW**

It is the goal of the symposium to gather together a select group of scholars for deep discussions on a variety of distributed learning perspectives and ideas. The symposia will be held July 19-23, 2010 at the Memorial Union Hotel of Indiana University in Bloomington, Indiana. Registrations details will be posted soon.

### **FORMAT**

Proposals/presentation abstracts will be accepted, through electronic submission via the AECT Web site, until September 1st, 2009. Notification of acceptance/rejection will be sent by e-mail 4 to 6 weeks after the submission deadline.

Presentations at the symposium will be held in a discussion-centered environment. Each presenter will be asked to adhere to a strict 5-10 minute time limit for formally presenting their ideas, followed by a 45-50 minute discussion period where exploration of their ideas with session attendees is to be encouraged. The initial form for proposals asks that interested presenters submit a short (max. 1,000 words) abstract communicating their conceptual ideas as well as how their ideas will advance the research agenda or practice for distributed learning. Presentations should be relevant to one of four concentrations:

- 1. Instructional design;
- 2. Interaction;
- 3. Technology; and
- 4. Organizational alignment and support (the economics of design, development and delivery).

Proposals will be blind reviewed for fit with the symposium's goals by a panel of members from the symposium advisory board. Should a proposal be selected and the presenter accepted, the presenter will be asked to commit to:

- 1. Writing the proposal into a formal, publication-ready paper by no later than April 1, 2010.
- Commit to reading all papers from the other presenters prior to attending the symposium
- 3. Attend the full symposium and all sessions. Failure to provide the formal paper by April 1, 2010 will result in a rescinding of the proposal acceptance and invitation to attend.

### **REVIEW PROCESS/CRITERIA**

The selection process will be designed to ensure a satisfactory mix of active participants who closely adhere to the theme of the symposium. The advisory committee will review and select proposals based on the following general criteria:

- 1. Relevance to topic;
- 2. Uniqueness of perspective;
- 3. Innovativeness:

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- 4. Research foundation;
- 5. Strength of argument;

- 6. Active discussion/audience participation; and
- 7. Multidisciplinary approaches.

Additional information will be distributed through TechTrends and ETR&D and available on the AECT Web site.

### **ADVISORY COMMITTEE:**

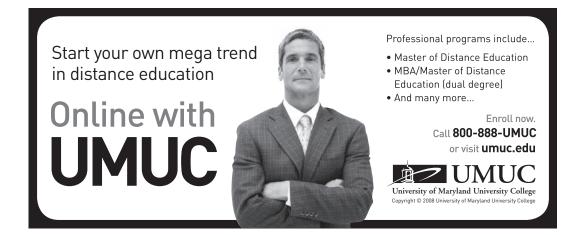
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- Lara Luetkehans

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is explained and defined (in the past tense, by the way) on page 231.

"Four characteristics distinguished distance education. First, distance education was by definition carried out through institutions; it was not self-study or a nonacademic learning environment. The institutions might or might not offer traditional classroom-based instruction as well, but they were eligible for accreditation by the same agencies as those employing traditional methods.

Second, geographic separation was inherent in distance learning, and time might also separate students and teachers. Accessibility and convenience were important advantages of this mode of education. Well-designed programs could also bridge intellectual, cultural, and social differences between students.

Third, interactive telecommunications connected the learning group with each other and with the teacher. Most often, electronic communications, such as email, were used, but traditional forms of communication, such as the postal system, might also play a role. Whatever the medium, interaction was essential to distance education, as it was to any educa-

tion. The connections of learners, teachers, and instructional resources became less dependent on physical proximity as communications systems became more sophisticated and widely available; consequently, the Internet, cell phones, and e-mail had contributed to the rapid growth in distance education.

Finally, distance education, like any education, established a learning group, sometimes called a learning community, which was composed of students, a teacher, and instructional resources—i.e., the books, sound, video, and graphic displays that allowed the student to access the content of instruction."

And finally, legitimization of distance education/learning must continue to be a goal of professionals in the field, and the *Encyclopaedia Britannica* has now made that a little easier.

### REFERENCE

Simonson, M. (2009). Distance learning. In *The* 2009 book of the year (p. 231). Chicago: Encyclopaedia Britannica.

### **Britannica (Not Wikipedia)**

### Michael Simonson

ikipedia begins its explanation of the Encyclopaedia Britannica by saying:

"The Encyclopædia Britannica is a general English-language encyclopaedia published by Encyclopædia Britannica, Inc., a privately-held company. The articles in the Britannica are aimed at educated adult readers, and written by a staff of about 100 full-time editors and over 4,000 expert contributors. It is widely regarded as the most scholarly of encyclopaedias."



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The Encyclopedia Britannica says this about Wikipedia:

"free, Internet-based encyclopaedia operating under an open-source management style. It is overseen by the nonprofit Wikimedia Foundation ... a troubling difference between Wikipedia and other encyclopaedias lies in the absence of editors and authors who will accept responsibility for the accuracy and quality of their articles. These observers point out that identifiable individuals are far easier to hold accountable for mistakes, bias, and bad writing than is a community of anonymous volunteers, but other observers respond that it is not entirely clear if there is a substantial difference. Regardless of such controversies—perhaps in part because of them-Wikipedia has become a model of what the collaborative Internet community can and cannot do."

Certainly, even today in the age of googling and social networking, the *Encyclopaedia Britannica* is considered to be one of the most prestigious references and resources for general information about almost any topic. Reviewers claim that the Britannica covers "all human knowledge."

Until recently "all human knowledge" did not include distance education; now it does. In the 2009 Encyclopaedia Britannica Book of the Year, distance education/learning

... continues on page 71

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