

Title of Submission: **A Blackboard Without Chalk**

Name of Author: Katherine N. Wilson

Affiliation of Author: Johns Hopkins University
School of Professional Studies in Business and Education
Graduate Department of Marketing

Address of Author: 100 N. Charles Street, 7th Floor
Baltimore, Maryland 21201

Email: knwilson@jhu.edu

Abstract

The Internet, World Wide Web, DVD's, Multimedia, streaming video...the list goes on and on. These technologies are pervading business and education. But do these technologies really herald a revolution in how we teach and learn and do business?

Education has been slower than business to embrace these technologies. But slow or not, there is evidence of their effectiveness in integrating technology into the adult classroom.

Research at the Johns Hopkins School of Professional Studies suggest that one such technology, Blackboard, a web-based course management system, has been found to enhances learning and improve learner outcomes. Instructors were able to post course content and material that would otherwise consume class time to disseminate and to address a variety of learning styles and better facilitate student learning. Effectively using Blackboard increased collaborative and project-based learning and teamwork and built a community of learners.

A Blackboard Without Chalk

What if we removed all of the computers from business tomorrow? Most businesses would find it nearly impossible to continue. Would it make as much of a difference in the knowledge and skills students demonstrated upon graduation if we removed all computers from colleges and universities? Some might say, probably not. Would this answer suggest that computers and other technologies offer less to educators than they do to the business community? Some educators would answer yes, feeling that the humanistic nature of education makes computers and other technologies less valuable. The rest of the educators would answer a resounding NO, and would not only find value in the power of technology, but would refuse to be without it!

With the mass production and consumption of computers in American society, the rate of acquiring computers for home, schools and offices has increased exponentially. The hue and the cry in both print and other media cautioned consumers that they should not be left on the side of the information highway. Burgeoning technologies that years ago were wide speculation are now daily realities. Companies began steering customers to their organizational web sites instead of their 1-800 numbers. Games that used to be sold in a box with a game board, play money and numerous pieces are now being packaged in disks suitable only for playstations, computer arcades and other hand held devices. Individuals who could not afford to take a trip to the Louvre can now take a virtual tour via the web. The pace in which technology is developing is staggering, and the limits of technology are far from being defined or demonstrated.

Key ingredients found most often on lists of tomorrow's skills are the ability to think quickly and strategically, to adapt to changing conditions, to build alliances to address large-scale challenges, and to work comfortably in a global environment (Riel, 2000). Technology plays a big role in acquiring these skills. While hundreds of thousands of high school students become college or technical school bound, a vast majority of these students complete their formal education ill-equipped to function in the technology rich society of the United States. One thing is for sure, however, technology has indeed provided improved educational opportunities for adult learners. Adult educators can no longer afford to hide behind a desk as technology has a future in adult learning environments.

It is apparent that technology for the sake of technology does not necessarily benefit the student, the school or the faculty. According to Mehlinger (1996), technology is not only a product of a given culture, it also shapes the culture that created it. Schwartz (1996) referencing Postman (1992) argues that the prevailing rhetoric about technology in higher education reveals the presence of Technopoly that consists of deification of technology. The culture seeks its authorization in technology, finds its satisfaction in technology, and takes orders from technology.

Privateer (1999) presents a caution that technology is not a panacea and that computers are not universal change agents. Academicians may mistakenly believe that instructional technologies can spearhead serious institutional reform because they create change in the area of course content and delivery. Schwartz (1996) takes this misconception a step further noting that the use of instructional technologies fails to include a discussion of costs, questions about ultimate purposes, philosophical debates

about the place of technology in the curriculum, or issues such as the effect of technology on learning and learners. The educational focus, policy and intent of the curriculum and agenda should be directed toward infusing the use of higher order learning skills. For technology to serve the purposes of education, it must be tied to a coherent, school wide instructional agenda (Johnson, 1999).

College faculty today can choose from a variety of technological options, such as videotape and DVD disks and can present an array of movies, instructional programs, and other visual and auditory materials. As opposed to the traditional **chalk-board** approach to teaching, new technology has provided ways to animate the presentation of course material to an adult generation now familiar with and accustomed to such mediums.

Society has become comfortable with the use of technology as both a tool for convenience and learning and has become accustomed to the immediate retrieval of information and services from both home and the office. As technology has impacted every aspect of our daily lives, increased pressure and societal expectations will be placed on the use and further advancement of technology. Higher student achievement and greater use in academic settings will continue to propel and expand the use of technology in adult learning.

Today's technology creates opportunities for adults to do more meaningful and authentic work. Green (1999) contends that information technology is now ubiquitous across and beyond higher education and that it is not just computers, the Internet or the Web, but the aggregate presence of technologies in virtually all facets of daily life that has made the difference. The higher education clientele, students ranging in age from 17

to 77 come to college expecting not only to learn *about* new technology but to learn *with* technology.

Huang (2002) and others believe that technologies are cognitive tools that help learners elaborate on what they are thinking and enables them to engage in more meaningful learning. According to Privateer (1999), the computer promises to revolutionize higher education because it is capable of uniting new ways of knowing with new ways of learning. It provides new "power tools" for learning that enable students to develop interpersonal and intellectual skills necessary to construct shared understanding of their world (Riel, 2001). Computers link students to the world, provide new reasons to research and write, and offer more opportunities for analysis and feedback. (Peck, 1994).

From long hours spent learning the Dewey-decimal system at the local library only to be limited by the latest print date of the information being sought, to the unlimited exposure to vast amounts of current topical data made available by the use of the Internet, technology has increased the speed at which and the way in which adults learn. Video, overheads, and PowerPoint presentations enable a great amount of information to be presented in a clear, readable, understandable and professional format.

Integrating technology into adult learning environments has not only improved the way students learn, but also the type of material learned, and the ability to go beyond the geographical confines of the educational facility itself. As varied the numerous technologies available to adult learners and faculty are, the adaptation of technology also varies in both usage in and outside of the classroom, and with faculty level of comfort. Each time an advancement has been made in communication, an opportunity to advance learning has been realized as a direct benefit of the innovation. When printing meant

books could be produced, the benefit was to proffer thought into written form. When the radio was made a reality, multiple audiences could hear and learn the same thing at the same time and in a variety of locations. The advent of film meant the capture of timeless historical events for all posterity. Nothing, however, has changed the way adult learning has improved like the Internet.

The internet is at once a world-wide broadcasting capability, a mechanism for information dissemination, and a medium for collaboration and interaction between individuals and their computers without regard for geographical location. (Hill, 2001, p.43)

Barriers to effective technology integration

Equally important to understanding the role that technology plays in adult instruction are the barriers that exist in integrating technology into the adult classroom. Research conducted on K-12 educators point to a variety of problems dissuading their use of technology in the classroom. Access to equipment is a major problem, support for technology varied greatly from school to school, their preparation to teach with technology lagged behind their preparation for other instructional technologies, and their practice teaching had minimal impact on their preparation to teach with technology (Strudeler, 1999). These problems are not singular to K-12 educators. Depending on who you ask in higher education, the reasons for not using technology vary from lack of self-confidence by the faculty, loss of perceived power by the faculty, lack of proven cost-effectiveness, lack of training, and the absence of faculty inclusion in the

instructional design phase. Technology seems to pose a significant challenge to the professional identities of faculty.

Green (1999) contends that the role of higher education faculty is to prepare professionals who are competent in the use of current and emerging technologies yet, it is questionable how college faculty are utilizing instructional technology in their own teaching. Most seem to be using it strictly for emails, some use PowerPoint while others simply assign projects to the students to be done outside of class with little to no direction or understanding themselves of what is involved (Groves, 2000). Technology alone is seen somewhat like a language that nobody can understand. It has potential but how does one crack the code. Until it is understood by faculty, it cannot be as useful as it should be.

One of the impediments to the use of instructional technology in higher education is that faculty view it as being too impersonal and a threat to the quality of instruction (Rice, 2001). A conflict exists between "high touch" and "high tech". Although argument can be made that there is inadequate contact between students and faculty in a traditional lecture format classroom, it is presumed by some that any other type of delivery will be even less adequate when compared to the traditional lecture. Some faculty believe that it is difficult to draw the line that clearly demarcates learning from non-learning techniques.

There is a simmering concern among some faculty that technology may be the new administrative weapon that will be used against those who resist the path to the digital Grail of IT enhanced instruction and online learning (Green, 1999). Lines have long been drawn in academia between administration and faculty and dialogue between these two groups concerning the use of information technology for teaching and research is not always civil. Often administrators made decisions without consulting the faculty.

Online Education

On-line courses and distance education initiatives are taking many forms across university programs. Online education can be defined as an approach to teaching and learning that utilizes Internet technologies to communicate and collaborate in an educational context. This includes technology that supplements, or completely replaces, traditional classroom training with web-based components and learning environments. Any discussion regarding technological advancements in higher education must surely include the advent of distance learning. While initially viewed as a perk in corporate America and the military, distance learning has continued to have a respectable showing in the minds of large universities who see distance learning sites as a way to forestall their declining admissions rates.

Distance learning has proven in a lot of cases to reach a greater number of students who range from degree candidates to housewives interested in acquiring skills in areas of personal interest. Constructivists such as Dewey, Vygotsky and Bruner believe that learners do not learn in isolation from others, and cognitive psychology has gradually established that people naturally learn and work collaboratively in their lives and interactive media provides a way to motivate and stimulate learners (Savage, 1996). The lines are blurring between distance learning, online learning and traditional classroom learning. The tendency to define offline and online instruction as two separate entities is an outmoded paradigm (Tulloch, 2000). Educators are no longer asking whether to use technology, but how to combine technology to best support student learning.

Design and Methodology

Each of the nine schools within Johns Hopkins University has the freedom to determine its own online/distance learning model. Models vary depending on the school's audiences, faculty characteristics, and funding for distance education efforts, resulting in a wide range of implementation strategies. For example, the Bloomberg School of Public Health attracts students and faculty from around the world. To reach this diverse audience, the BSPH developed its own learning platform and was the first school at Hopkins to offer fully online programs. Hopkins' Business of Medicine program, a partnership between the Johns Hopkins School of Professional Studies in Business and Education (SPSBE) and Hopkins School of Medicine has taken their program on the road and set up satellite campuses throughout the United States.

SPSBE has also elected to use **Blackboard** as a web-based course management system to supplement, strengthen and compliment instruction in its graduate business and education programs. This initiative required the formation of a philosophy of blending classroom experience with web-based instructional resources. Faculty and administrators alike believe that while technology has its place, there will always be the need for continued direction from the human element of a skilled educator. Malcolm Knowles (1998), noted scholar on adult learners, believed that intellectual development depends upon a systematic and continuous interaction between a tutor and a learner. Technology, as effective and sophisticated as it is, cannot replace the necessity of, and need for, the student-teacher relationship in the learning process. This philosophy has been embraced by SPSBE in bringing in a technology that enables the tutor and the learner to interact.

The School of Professional Studies in Business and Education has primarily a regional audience spread out across the Baltimore-Washington region. This consideration led to the systematic and explicit development of a blended approach to distance/online education that takes advantage of face-to-face opportunities combined with online tools and instructional support afforded by Blackboard.

The approach taken by SPSBE was to begin by training faculty in integrating online learning modules into their courses and in the use of web applications. Focusing first on course content and site development, faculty learned to create a course site and to organize their course material to include their syllabi, PowerPoint and lecture notes on a secure site. Online communities were built by faculty learning innovative ways to utilize the communication tools within Blackboard (discussion board, virtual chat) to facilitate and foster a sense of community in courses. Additional training included managing grades online and creating online tests and surveys, integrating multimedia into a course, and techniques to motivate students in an online environment through the external links component.

The Research

The three divisions in SPSBE (graduate business, education, and undergraduate) examined Blackboard course sites and activity for a one year period from spring semester 2000 to spring semester 2001. During that time, Blackboard support was provided to 465 faculty, 7,366 students through 563 course sites. Using Blackboard provided students and

instructors the opportunity to integrate technology into the teaching and learning process. Random course sites were monitored and analyzed.

The analysis showed that the primary uses included the faculty posting their syllabus and course materials, providing references to external web links, and the use of both asynchronous (discussion boards and email) and synchronous communication (chat). Using Blackboard, instructors believed that they were able to address a variety of learning styles and therefore better able to facilitate student learning. They were able to post course content and material that would otherwise consume class time to disseminate thereby enabling them to increase instructional time. Student surveys, used as a follow-up, indicated that providing supplemental material on Blackboard enhanced their learning and improved learner outcomes.

Additional feedback suggested that effectively using online learning modules increased collaborative learning, project-based learning and teamwork. High marks were given to using Blackboard to deliver information and to build community enhanced student motivation. Using Blackboard enhanced student-to-student and student-to-faculty communication, and using Blackboard added value to the classroom experiences and allowed for effective measurement of student achievement of instructional objectives.

Overall, the findings from this study found that faculty and students viewed the use of Blackboard to supplement classroom instruction as an added value to their programs. This web-based tool, organized within a secure instructional platform enhanced and facilitated communication between instructors and students and among students collaborating together in a course. Blackboard was deemed easy-to-use and an effective electronic educational platform for both instructors and students.

In the spring semester 2002, the graduate business division as one of three divisions within the school, was evaluated separately for their use of Blackboard. A survey was available online to 33 randomly selected faculty who had elected to use the blended approach and approximately 300 students enrolled in Blackboard course sites. Responses were received from 15 faculty and 84 students.

Summary of Student Survey Findings:

On a scale of 1-5, 83% of the students rated their experiences using Blackboard as either positive (5) or somewhat positive (4). The majority found Blackboard useful for communicating with others, having the ability to download documents, and uploading files via the digital drop box. When asked what features of Blackboard students found most helpful, students responded:

“I liked the ability to get course documents from the site and the ability to check my grade in the student tools.”

“I found that the assignments and course documents being available on line as the most helpful features...since I travel due to work.”

When asked what features of Blackboard students found least helpful, students responded:

“I think the different features are good, but are underutilized. Given the opportunity and encouragement, I think more students would take advantage of what they offer. It isn't really promoted enough.”

“If the professor does not update, and support the site 100%, it is exponentially less valuable to the students.”

Summary of Faculty Survey Findings

All faculty rated their experiences with Blackboard as a positive experience (5).

One instructor commented,

“ I loved the fact that students lost any excuse about missing assignments. After each class, I posted/updated the assigned material. I often posted some follow-up material after we had a lively discussion in class.”

Most used the software as a tool to post announcements and present content. Other heavily used features included communication tools (75%), external links (58%), and digital dropbox (33%). E-mail and discussion boards are the commonly used communication tools.

Instructor concerns related to some of the more advanced features which they were unsure how to use. Half of the faculty surveyed said they would consider teaching a course totally online but would need some additional features such as audio and possibly video and training to replace the natural synergy of a classroom environment. They were confident that instructional goals, which included reinforcing and communicating content to students, were met through their ability to post documents and grades. One faculty, found her time better utilized elsewhere as she reported:

“It greatly reduces the amount of paper and time spent copying.”

Faculty members had a wide range of technology skills and experiences therefore needed various levels of training and support. They reported that sufficient time is needed for course content development and that this time must be built into the preparation of their courses. . Support needs to be on-going and not just in the initial stages of course

development. However, the demand for support would seem to vary depending on the level of course site usage.

Departmental involvement encouraged usage and progress. Instructors were most responsive to a department that required the use of Blackboard as part of their curricula and in addition promoted or provided training sessions.

Conclusion

Privateer (1999) contends that to argue that current technologies can deliver a better education for less money raises some serious questions. Cost reductions in themselves are meaningless if the value of the product is substandard. Cultural bias and lack of training aside, the prevailing school of thought is that in order to remain competitive, colleges and universities must find ways to effectively incorporate technology into the learning process. Traditional and technological learning modalities must co-exist. Green (1999) is correct when he states that as educators we need to acknowledge that information technology and instructional technologies are yet to transform classrooms, the instructional activities of most faculty, or the learning experience of many of our students. But at least the transformation has begun.

A September 11, 2001 Business Wire release entitled “Blackboard achieves international expansion milestone with adoption at 3,000 institutions in 140 countries” indicates that there is a tremendous interest in this technology.

We continue to debate fundamental issues that focus on the application—how we use the technology, and the impact—the difference it makes in what and how students learn. Planning for the integration of technology is a necessity. Broader learning

communities are made possible through the inclusion of electronic field trips, online mentoring, scientific investigations, and automated assessment tools. For example, mediated learning software and a built-in management component can measure a student's work in detail, and faculty can diagnose weaknesses and know immediately when a particular student is falling behind (Tulloch, 2000). Forces both within and external to higher education have to establish the technical infrastructure for the use of technology.

In surveys across the entire School of Professional Studies, students reported a distinct hesitancy towards enrolling in a completely online course, citing concerns of lack of classroom interaction and bandwidth issues. One student remarked:

“I believe to have a good learning experience, you need some “live” interaction with the instructor and the other students. This helps the learning process. I think the Blackboard software could be used effectively to supplement a classroom course, but not totally to replace the classroom setting.”

This belief is supported by others who recognize that technology, in whatever form, is no silver bullet for transforming education (Means, 1995). Traditional teaching methods are still required to provide the support and structure to learning environments. When considering the role of technology in adult learning, adult educators must determine how to respond to technology and exploit it without diminishing the learning experience (Imel, 1998).

Technology is an integral part of our present and our future. Educators can choose to ignore the influence of technology in our lives or acknowledge its reality and future in

curriculum development and educational approaches. Forward thinking educators, on the vanguard of technology usage, assess future demands of their graduates and characteristics of their students and the community. They consider what is known and investigate tools and techniques available (Peck, 1994). Administrators should work collaboratively with faculty to identify priorities before making the types of decisions that incorporate the use of technology. At the very least, faculty should be aware of impending changes (Rice, 2001). The need to prepare faculty to make effective and efficient use of technology to support teaching and learning has not gone unnoticed (Duhaney, 2001). Much still needs to be done to ensure that the desired learning intent equals the same amount of planning faculty bring to the development of their classroom meeting plans.

References

- Duhaney, D.C. (2001). Teacher education: Preparing teachers to integrate technology. International Journal of Instructional Media, 28(1), 23-30.
- Green, K.C. (1999). When wishes come true: Colleges and the convergence of access, lifelong learning, and technology. Change, 31(2), 10-15.
- Groves, M.M. & Zemel, P.C. (2000). Instructional technology in higher education: An action research case study. International Journal of Instructional Media, 27(57), 57-65.
- Hill, J.R. & Hannafin, M.J. (2001). Teaching and learning in digital environments: The resurgence of resource-based learning. Education Technology Research and Development, 49(3), 37-52.
- Huang, H. (2002). Toward constructivism for adult learners in online learning environments. British Journal of Educational Technology, 33(1), 27-37)
- Imel, S. (1998). Technology and adult learning: Current Perspectives. ERIC Digest, 197.
- Johnson, M.J. & Schwab, R.L. (1999). Technology as a change agent for the teaching process. Theory Into Practice. 38(1), 24-30.
- Knowles, M.S. Holton, E.F. & Swanson, R.A. (1998). *The Adult Learner*. Houston, TX: Golf Publishing Company.
- Means, B. & Olson, K. (1995). Beyond the classroom. Phi Delta Kappan, 77(1), 69-72.
- Mehlinger, H.D. (1996). School reform in the information age. Phi Delta Kappan, 77(6), 400-408.
- Peck, K.L. & Dorricott, D. (1994). Why use technology? Educational Leadership, 51(7).
- Privateer, P.M. (1999). Academic technology and the future of higher education: Strategic paths taken and not taken. Journal of Higher Education, 70, 60-79.

Rice, M.L. & Miller, M.T. (2001). Faculty involvement in planning for the use and integration of instructional and administrative technologies. Journal of Research and Computing in Education, 33(3), 328-36.

Riel, M.M. & Fulton, K. (2001). The role of technology in supporting learning communities. Phi Delta Kappan, 82(7), 518-23.

Savage, T.M. & Vogel, K.E. (1996). Multimedia : A revolution in higher education? College Teaching, 44, 127-131.

Schwartz, G. (1996). The rhetoric of cyberspace and the real curriculum. Journal of Curriculum and Supervision, 12, 76-84.

Strudeler, N.B., McKinney, M.O., Jones, W.P. & Quinn, L.F. (1999). First year teachers' use of technology: Preparation, expectations and realities. Journal of Technology and Teacher Education, 7(2), 115-129.

Tulloch, J.B. (2000). Sophisticated technology offers high education options. T.H.E. Journal, 28(4), 58-60.
