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Philip Gaines, PhD

Associate Professor of Linguistics and Chair, Department of English, Montana State University Bozeman

As this issue of *Montana Professor* arrives in mailboxes, we find ourselves at the end of the calendar cycle that defines our professional lives. Some things don't change, and the ebb and flow of the academic year is part of what keeps our work fresh.

But some things do change—and sometimes radically. At the moment, we are all, willingly or not, aboard an express train called *Online Education*. It left the station quite awhile ago and shows no sign of slowing down. I have had more than one suggestion in the last couple of years that *MP* dedicate some space to online, so this is a special issue on the topic.

University administrators and boards of regents/trustees in every state, in both private and public institutions, see in online teaching an answer to the financial challenges faced by higher education. Courses are relatively inexpensive to run, "profits" can be significant, and the convenience plays well with students. Most faculty would agree, I think, that these are questionable reasons to begin online programs. The discussion about online education as a financial liberator will not figure in the contributions in this issue of MP. Of far greater import to faculty is the matter of the pedagogical implications of this paradigm shift. Consequently, the focus in the Spring issue is online *learning*.

Leading the conversation in the feature **Critical Issues in Higher Education** is an article by Michael Scarlett, Sharon Hobbs, and Cindy Dell, all of Montana State University Billings, arguably the premier site of online learning in the state. A generally positive take, the piece makes the point that online learning is not about trying to move the traditional classroom into the cyberworld; rather the question is: what can online learning uniquely accomplish because of its distinctive strengths and potentials?

In **Perspectives**, Henry Gonshak of Montana Tech of the University of Montana and Robert Squires of UM Missoula bring opposing views of online education—Squires from his experience with Massive Open Online Courses (MOOCs) and Gonshak from his years-long reflections on the risks of online alternatives.

Focus on Teaching features a contribution from Cheryl Young-Pelton, again from MSU Billings, describing an innovative distance learning approach to coursework for graduate students leading to certification in applied behavior analysis for working with clients with autism spectrum disorders. Young-Pelton's article, although somewhat dense in technicality, suggests ways of thinking far outside the proverbial box in regard to hybrid learning environments.

Danielle Wozniak, Christine Fiore, and Elizabeth Hubble of UM Missoula share their experience of developing and implementing another of the MUS's exciting **New Programs**—an online rape awareness training program which has gotten traction on the UM flagship campus. The topic is a critical one for Montana, and the approach to raising awareness described here sounds like a powerful one.

Finally on the online front, two **Book Reviews** (Marvin Lansverk, MSU Bozeman;
Peg Wherry and Margaret Worob, MSU
Bozeman) and one **Book Notice** (Mary Anne
Hansen. MSU Bozeman) take a look at three
books about online education, variously treating
hybrid courses, social networking in online
learning, and bad behavior in cyberspace.

This issue's **MP Interview** features the Chair of the Board of Regents, Angela McLean. The BoR has sometimes been a subject of intense criticism by MUS faculty; you may find Chair McLean's reponses to a number of hard-hitting questions illuminating.

In **Current Research**, Michael Reidy of Montana State University Bozeman gives an animated overview of the work being done by his research group on the letters of 19th century British scientist and alpinist John Tyndall. The upcoming editions of Tyndall's correspondence promise to open a window on the thought of an innovative researcher who has fallen into relative obscurity...until now.

A request: Write to me! *MP* is intended to be a forum for conversations about the matters of interest and concern that appear in its pages. I look forward to publishing your thoughts in **Reader Response.**



Philip Gaines

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CORRECTION

In the last issue of MP, I inadvertently identified the President of the University of Montana Missoula as Royce Erickson. This is, first of all, mortifying and something for which I apologize profusely. The strange thing is that I know, am familiar with, and have used on multiple occasions Royce Engstrom's name...

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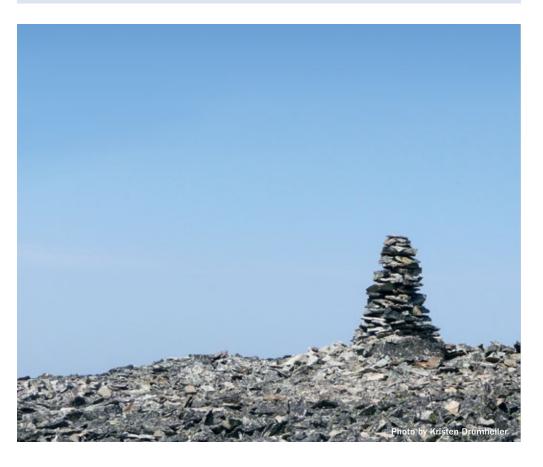


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NOTABLE NEW BOOKS FROM MONTANA FACULTY

Experimental Photography Workbook, 6Th Edition by Christina Z. Anderson

Peeling The Onion: It Governance And Management For Business Managers by Kregg Aytes

Improving The Visibility And Use Of Digital Repositories Through Seo: A Lita Guide by Kenning Arlitsch & Patrick Obrien

Teaching In The Middle And Secondary Schools by Jioanna Carjuzaa and Richard D. Kellough

Building Mobile Library Applications by Jason A. Clark

Thriving Through Tough Times by Deidre Combs

Introduction To Energy, Environment And Sustainability by Paul Gannon

Bone Histology Of Fossil Tetrapods: Advancing Methods, Analysis And Interpretation by Ellen-Therese Lamm & Kevin Padian

Contemporary Chinese Fiction by Su Tong And Yu Hua: Coming Of Age In Troubled Times by Hua Li

Screencasting For Libraries by Greg Notess

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Arc Of Empire by Steven Levine

Blackfoot Redemption by William Farr

Mining Cildhood by Janet Finn

Little Black Lies by Jeff Gailus

Auntie Yang's Great Soybean Picnic by Beth Lo

Mammals Of Montana by Kerry Foresman

Montana Before History by Douglas Macdonald

Field Seasons by Anna Marie Prentiss

People Of The Middle Fraiser Canyon by Anna Marie Prentiss

Girls Of No Return by Erin Saldin

Satanism, Magic, And Mysticism In Fin-De-Siècle France by Robert Ziegler

Risk-Reduction Methods For Occupational Safety And Health by Roger Jensen

ONLINE EDUCATION: BUSINESS AS USUAL OR THE NEXT, BEST THING?

Michael H. Scarlett

Assistant Professor of Educational Theory and Practice, Montana State University Billings

Sharon F. Hobbs

Professor of Educational Foundations, Montana State University Billings

Cindy Ann Dell

Assistant Professor of Curriculum and Instruction, Montana State University Billings



ELECTRONIC TECHNOLOGY HAS PLAYED a vital role in enhancing teaching and learning in higher education for more than 50 years. Many of us still remember the time-consuming tedium of doing academic writing using typewriters. Providing syllabi or information handouts for students required someone, usually an office staff person, to type the information so it could be reproduced via a duplicating machine. Any changes made in the information required starting the process over. Cumbersome overhead projectors were used to project information for student note taking. Both students and faculty members pored over articles preserved on microfilm or microfiche in libraries. In classrooms across the country today, sophisticated "smart" technology allows an instructor and students to project documents, show presentations, videos, and websites, and engage in interactive discussions across time and space. Research can be done from a home or office computer whenever it is convenient rather than when the library is open. Information can be shared with students through a variety of effective and efficient means. In short, electronic technology has streamlined the educational process for both faculty and students.

As welcome as technological advances in higher education have been, new technology has not fundamentally changed the way we think about teaching and learning. In a sense, technological advances have simply allowed us to do what we have always done better and more efficiently. The point here is not that university faculty have stagnated or that higher education has made no progress over the past 50 years but rather that the basic assumptions about what it means to teach and learn have been tweaked, not reconceptualized. Online education has the power to turn us around so that we look at our assumptions about what we want higher education to accomplish from a new vantage point.

The focus of this paper is on the disruptive presence that online education has introduced to

business as usual in higher education. This notion of disruption comes from work done by Clayton Christensen in the mid-1990s (Bower & Christensen, 1995). Speaking primarily about business innovations, Christensen makes a distinction between "sustaining technologies" that are successful primarily because they work efficiently and align with customer expectations, needs, and desires and "disruptive innovations" that sometimes appear quite unexpectedly; initially they don't work nearly as well as mainstream products or services and may not connect to customer expectations. However, these disruptive innovations have the potential to remodel expectations from the ground up and attract a new set of customers who see utility in the new products or services. Christensen offers a number of familiar examples of disruptive innovations: mainframe computers replaced by personal computers and more recently, by tablets and smart phones; digital cameras and software have replaced bulky and expensive cameras that use film, with its cumbersome processes for developing, printing, and editing; mobile cell phones have largely replaced landline telephones. In each of these examples, the companies successfully implementing sustaining technology find their market usurped "by the little guy with the sling shot – a sling shot that just happens to be cruder, easier to use, less expensive, and more attractive to a heretofore unengaged set of new consumers than the giant's weapon of choice" (Stokes, 2013, para 14). In higher education, we argue that online education has disrupted business as usual; the question that remains to be seen is whether it really is the next, best thing.

Clearly, higher education has not been asleep for the past twenty years. There are currently 132 online degree programs where at least 80% of the coursework is offered online across the MUS System and 3,865 online courses, generating 132,961 credit hours (Montana University System On-Line Education Summary Stats,

2012). Nationally, 32% of students are taking at least one course online (Allen & Seaman, 2013, p. 19). Fueling this movement towards increasing online education, at least in part, is public demand. Citing convenience and access as primary reasons for interest, approximately a third of Montanans (186,500) between the ages of 18 and 64 have some interest in distance learning (Bureau of Business and Economic Research, 2010). Interest is highest for asynchronous course offerings and, tellingly, almost half of those interested in distance learning are not interested in a degree or certification. Given the rapid pace of change, the increased access people have to education online, generally—MOOCs, iTunes University, YouTube, Coursera, TED (Technology, Entertainment and Design)—and the rural nature of the state, online education is likely going to continue to grow and to fundamentally reshape the face of higher education.

Despite the growth of online education, significant challenges remain if its potential is to be realized by both faculty and students. Undoubtedly, there are many "elephants in the room" when it comes to online education. Faculty ambivalence towards online education, the need for greater student accountability, the depersonalization of education, and a lack of training for faculty are just some of the hurdles that need to be addressed. This article represents the voice of almost forty years of combined experience teaching online. We understand that online education is not the answer to all of our problems and we are not suggesting that online education is inherently superior to traditional education; however, we will argue that online education is inherently different, encouraging faculty to try out new ways to engage and interact with students. Conversely, of course, there are things that can be done in the traditional classroom that simply cannot be done online-yet. Some of the challenges posed by online education are technical in nature and therefore require technological solutions, which are generally beyond our control as faculty. Some of the obstacles, however, are perceptual and require imagination and will to address. Given the magnitude of the changes that are occurring, we believe it is time for faculty to take online education seriously.

Before we engage in a discussion of what online education can do for us in the university system, it is important to define some terms. According to a recent survey of online education (Allen & Spearman, 2013), there is a wide variety

of ways in which instructors use the internet in their teaching; for consistency we will use the same nomenclature. Traditional courses are those in which the internet is not used at all and content is delivered in face-to-face settings either orally or in writing. Online courses deliver at least 80% of the content online with typically no face-to-face meetings. In this article, we will focus on programs and courses offered fully or primarily online, but it should be noted that somewhere in between the traditional and the online are blended/hybrid and web-enhanced courses in which 1-79% of the course is delivered online. In a web-enhanced course the instructor provides materials to students using a web-based platform such as Desire2Learn and may also utilize other functions of such platforms such as grading and dropboxes to support a traditional course. Blend/ hybrid courses generally require some face-to-face class sessions with a significant online component. A more in-depth discussion of online education would incorporate the many nuances suggested by the range of ways the internet can support instruction, but the primary focus of this article will be on the benefits of online education as well as the ways in which both online education and traditional education can inform and strengthen the way we educate students in higher education.

Strengths of Online Teaching and Learning

Most research compares the effectiveness of online classes against the effectiveness of traditional classes in an attempt to determine whether online education is a valid approach to teaching and learning or an innovation that may be efficient but necessarily sacrifices quality and effectiveness to achieve that efficiency. The assumption is that traditional classes embody the standards by which we should judge the effectiveness of both teaching and learning. But perhaps we are asking the question backwards. What could we learn about teaching and learning in higher education if we used online learning as the model of effectiveness? Online learning pushes us to challenge our basic assumptions in ways that traditional education does not. We identify the limitations of online education more readily and clearly because it is new, different, and evolving, whereas we may overlook the inherent flaws and shortcomings of traditional models of teaching and learning because they are so very familiar and comfortable. In this section of the paper we want to focus on three areas that we see as strengths of

OUR POSITION IS THAT WE SHOULD STOP TRYING TO DECIDE WHICH IS BETTER—ONLINE OR TRADITIONAL APPROACHES TO **TEACHING AND** LEARNING. WE **BELIEVE THAT HIGHER EDUCATION BENEFITS** FROM THE SYNERGY **AND INCREASED OPPORTUNITIES FOR LEARNING FROM** A COLLABORATIVE **RELATIONSHIP BETWEEN THE TWO MODALITIES.**

online education: it has the potential to significantly expand students' educational opportunities, to deepen student learning, and to reinvigorate university teaching.

Expanding Students' Educational Opportunities

The traditional model of education requires the student to go to college to get an education. We would not want to deny the many benefits, particularly for traditional aged students, that come from leaving home and immersing themselves in a campus environment that encourages students to push out the boundaries of their knowledge and experience. However, the demographics that supported living on campus and participating in college classes and activities full time have changed radically over the past decades. In the 21st century, more than 75% - 85% of college students are classified as commuter students, living at home or off campus and coming to campus as needed to take courses. The fastest growing group of students over the next decade is projected to be students 35 years and older. Table 1 shows the ongoing shift as non-traditional aged students outpace younger students in seeking out higher education opportunities.

ENROLLMENT AND PROJECTIONS FOR POSTSECONDARY DEGREE-GRANTING INSTITUTIONS

Student Age Range	Increase between 1966 and 2010	Projected increase between 2010-2021
18-24	52%	10%
25-34	45%	20%
35 and older	32%	25%

National Center for Educational Statistics, 2013

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Additionally, the increase in full-time student enrollment between 2010 and 2021 is projected at 12% whereas the projection for part-time student enrollment over this same time period is 18% (National Center for Educational Statistics, 2013). Particularly in states like Montana, many students do not live within easy driving distance of a college or university. Access according to the traditional model, then, is limited to students who are able to relocate or to engage in long commutes. This model requires students and instructors to show up at a specific, arbitrary time, which requires everyone to schedule the rest of their daily lives around that time. Online classes and programs open up opportunities to many potential students who are place-bound. Most non-traditional students have jobs and families that make it very difficult for them to relocate. The increasing number of part-time students attests to the fact that the new norm is balancing college with full or part-time work and family demands. Online education allows students to learn at a time that best suits their lives. The ability to take all or most of the courses required for a college degree from home makes the difference between being able to take advantage of the opportunities higher education offers or not.

By making college programs available online, where one lives is no longer a determinant of what

programs or degrees an individual may wish to pursue. Given the current volatility in the job market and the ongoing downsizing of business and industry, many adults are recognizing the value of online programs and courses to help them prepare for new career paths or to update knowledge and skills as they seek employment. We must keep the shifting demographics of current and potential students in mind as we experiment with the most workable balance between online and traditional courses and programs if we want to maximize educational opportunities for a broad array of types of students.

Another cohort of students better served by online education is students with disabilities. Current research indicates that students with various disabilities are not only entering higher education at a higher rate but are also opting to take courses online (Dell, 2013). Unlike in a traditional class where a student's disability may be very visible, sometimes creating barriers based on perceptions and stereotypes, neither students nor instructors may be aware that a student has a disability unless the student self-discloses. Students with disabilities can make use of many features of online learning to compensate for their disability. For example, a student with low vision who struggles to see the board or to read handouts in a traditional class can make text as large as is

necessary on the computer; a student with limited mobility who finds speaking during a discussion or writing exams in a traditional class difficult may benefit from being able to compose posts to a discussion or write an exam at his or her own speed on the computer. Instructors who use Universal Design principles in designing their online classes, so that "the design of products and environments...[is] usable for all people, to the greatest extent possible" (Coombs, 2011, p. 6) further contribute to increasing educational opportunities not just for students with disabilities but for all learners.

Online education not only can make a college education or degree program a reality for students underserved by the traditional educational model but the real power of the internet, as seen in the explosion of social media and networks, is its ability to connect people across space and time. This is particularly important in a relatively homogeneous state like Montana where many people grow up and live their lives in communities with little contact with people who come from backgrounds different from their own. As the popularity of online classes and programs grows, even students in isolated areas may be learning with students from other parts of the U.S. and increasingly with students from other countries. Coming together in an environment where students' own experiences and perspectives play a meaningful part in the educational process may help build understanding and respect among people from a wide variety of backgrounds and experiences. Global education takes on a new meaning because students really have the opportunity to learn with peers around the world.

Deepening Student Learning

In addition to opening access to higher education to many students of all ages, online education also can deepen and expand student learning in ways that align more readily with their own expectations for how they want to learn (Prensky, 2010). Prensky argues that today's students "want ways of learning that are meaningful to them, ways that make them see - immediately - that the time they are spending on their formal education is valuable, and ways that make good sense of...technology" (p. 3). Although Prensky is focused primarily on "digital natives," meaning technology-savvy traditional-aged students, the need to see an immediate return on their investment in time, effort, and money in college programs and degrees is perhaps even more salient to older students. We want to

examine several aspects of online teaching that promote maximizing student learning.

We believe that involving students in thoughtful discussions is a critical part of the educational process, whether in a traditional setting or online. In traditional classrooms, discussions often have a "ping-pong" structure where each student participating in the discussion directs his or her comments to the instructor. Moving from a ping-pong discussion to one where students listen carefully to each other, probe their peers' thinking and reasoning, respond with additional questions, and support their own positions with credible sources is possible but rare in the traditional classroom. Because most online instructors use discussion as a major vehicle for learning, the emphasis in online discussions on thoughtful and reflective student participation helps them develop skill in critical thinking and analysis.

Students range from outgoing and extroverted to shy and introverted. The intensity of formulating a response and voicing it in front of peers can be intimidating for many students. We have all had students in traditional classes who do insightful written work but never contribute to discussions. As a result, the class never hears these students' perspectives. The nature of the online environment can bring out the best in students who are shy or lacking in confidence who ordinarily sit in the back of the room and passively listen to others discuss. Online teaching can increase opportunities for collaboration between students and between students and instructor, avoiding the ping-pong discussion structure by more deeply involving students in the learning process. Since online classes generally require and grade student participation, even students who are reticent to share their perspectives or who need more time to formulate their ideas before sharing them with peers become active participants. Online classes, then, provide opportunities for instructors not only to encourage less assertive students to participate fully, but to help them find their own voices. The asynchronous nature of most online discussions encourages students to dig deeper into their own understanding of the concepts and issues under discussion than generally happens in a traditional discussion that may last from 10-30 minutes. The result is a deeper engagement in their own learning as well as deeper understanding of the concepts and ideas being taught.

Something else that makes online teaching effective is "its ability to deliver instruction that is

DEVELOPING BEHAVIOR ANALYSTS IN MONTANA AND BEYOND THROUGH THE USE OF TECHNOLOGY

Cheryl A. Young-Pelton

Assistant Professor of Special Education, Montana State University Billings



Cheryl Young-Pelton

BECAUSE ABA IS ESPECIALLY **EFFECTIVE WHEN IMPLEMENTED AS AN EARLY INTENSIVE BEHAVIORAL** INTERVENTION FOR YOUNG CHILDREN. THE DEMAND FOR TREATMENT IS **INCREASING RAPIDLY, REQUIRING THE PLANNING AND SUPERVISION OF A SERVICES OF BOARD** CERTIFIED BEHAVIOR ANALYST (BCBA).

In the inaugural issue of the *Journal of* Applied Behavior Analysis, Baer, Wolf and Risley (1968) laid the groundwork for a new direction in applied psychology and learning. Back then, Applied Behavior Analysis (ABA)—evidencebased treatment for individuals with autism spectrum disorders and other serious conditions—was a profession in its infancy, dedicated to improving lives through socially valid measures and carefully distinguishing application from the experimental or conceptual analysis of behavior. Forty-five years later, ABA is recognized worldwide as a scientifically researched method for behavioral. In a 2011 survey of certified individuals, the largest number of BCBAs (81%) reported working in the field of disabilities: autism (54%), developmental disabilities (24%), and special education—general (13%) (BACB, 2011).

Because ABA is especially effective when implemented as an early intensive behavioral intervention for young children, the demand for treatment is increasing rapidly, requiring the planning and supervision of a services of Board Certified Behavior Analyst (BCBA). The Behavior Analyst Certification Board (BACB), the profession's credentialing body, announced in September, 2011—just thirteen years after its inception—that their numbers for the first time had exceeded 10,000 certificates, issued worldwide. However, during the same period, Montana had only four behavior analysts credentialed by the Board (BACB, 2011).

The road to becoming a behavior analyst traverses three stages for the graduate student: (a) *training* in one of over 170 approved university programs around the world, (b) extensive candidate *supervision* from either a university program or a BCBA and (c) a certifying *professional exam* (BACB, 2012). The BACB administers examinations three times a year in over 200 sites in the US and over 150 sites internationally.

University programs in behavior analysis are typically taught on campus versus online. Of the 27 programs offering an approved sequence of courses for certification in either an online or distance format, only six include the supervision necessary to apply for the professional exam. In addition, no programs for behavior

analysis training are offered in states or provinces that border Montana. The nearest programs, whether on campus or online, are more than 500 miles away—in Washington, Colorado, Utah, and Minnesota.

BACB Approved Training

Montana State University Billings established its sequence of approved BACB courses in 2009. Six months later, a supervised internship component was added. All courses in the sequence are offered online and the supervision requirement is also available for distance students. Critically, it is the intensive use of technology that has made this program highly successful.

Online Coursework

MSU Billings offers an approved sequence of six courses in a two-year rotation over six terms. Each course is three credits and meets the BACB Task List objectives. Courses are designed in modules that incorporate a variety of learning experiences including video presentations, audio lectures, study guides, vocabulary games, real-world projects, case studies, presentations, discussions, quizzes, and tests. The modules are designed to support nontraditional students who balance professional and family responsibilities with their educational pursuits.

Student evaluations from online ABA courses have been positive (semester averages are near 4.5 or higher, on a 1-to-5 scale. Written comments on course evaluations have also tended to be positive. Of course, online learning is not for everyone, but for students who want an online experience with the convenience of learning from their home or work computer, these courses meet the need.

Intensive Practicum.

The supervision requirements of the BACB Intensive Practicum are met through the 5-credit MSU Billings course, *Internship in ABA*. In order to meet the required number of supervised hours, a candidate for certification must take the internship three times. Student interns conduct behavior analytic activities for 250 hours a semester with appropriate clients in

a site where they have direct supervision. The university provides a BCBA to supervise the intern twice weekly for a minimum of 25 hours a semester—an average of about 1.5 hours per meeting (See Table 1). For students who live near campus, the supervisor goes to the practicum site, or the student can go to the

supervisor's office. For distance/online students, all course exchanges—discussions on competencies, case studies, video samples, etc.—are conducted through the secure campus online system Desire2Learn. Real-time weekly meetings are accomplished via webcam.

INTERNSHIP SUPERVISION (BACB INTENSIVE PRACTICUM) REQUIREMENTS

	Per Semester	Per Week
Number of qualifying hours logged by intern	250 hours	18-22 hours (but no fewer than 10 hours and no more than 30)
Supervision contacts	28 contacts	Twice weekly (min.)
Hours of supervision	25 hours minimum	1.5 or more hours (10% of logged hours)

Internship Placements.

Of the 42 students who have taken *Internship in ABA* since it began in 2009, only 8 (19%) had local placements in the Billings area. The remaining internship sites have been an hour or more away from Billings. Seventeen distance internships were provided within Montana and sixteen involved placements in 13 other states. Distance internships were arranged by the graduate student and then approved by the program on a case-by-case basis after contact with the site supervisor. In most instances, graduate students worked full- or part-time at the agency or school where they conducted internship activities. Qualifying activities for internship must include:

- Conducting assessments related to the need for behavioral intervention;
- Designing, implementing, and systematically monitoring skill-acquisition and behaviorreduction programs;
- Overseeing the implementation of behavioranalytic programs by others;

- Training, designing behavioral systems, and performance management;
- Attending meetings regarding the behavior analytic program, researching the relevant literature, and talking to individuals about the program.

Interns worked with a variety of individuals in different settings. The BACB requires that clients be persons for whom behavior-analytic services are appropriate as long as the supervisee is not related to the client and is not the client's primary caretaker. Supervisees must work with multiple clients during the experience period. Settings for internships have been in schools, agencies, residential treatment centers, and clinics (See Table 2). Twenty-three interns were employed in public schools, thirteen worked for agencies providing autism treatment, nine had clinical placements, and five worked in residential centers—some with more than one placement over the three semesters of internship.

TYPES OF INTERNSHIP PLACEMENT, FOR DISTANCE AND LOCAL SITES (2009-2013)

Placement	Туре	Local	Distance	Total
School	Elementary	4	10	14
	Secondary or Alternative	0	8	8
Agency	EIBI/Autism	2	11	13
Residential Treatment	Autism	0	1	1
	Developmental Disabilities	1	1	2
	Emotional Disturbance	1	1	2
Clinical	Speech	3	0	3
	Psychology	0	4	4
	Counseling	0	2	2
		11	38	49

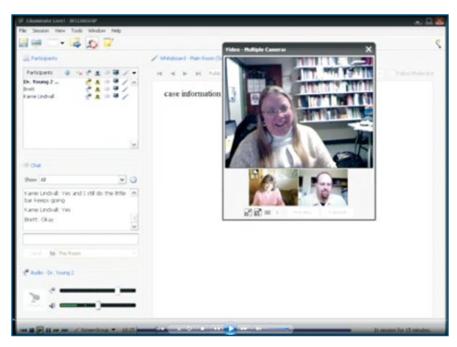


Figure 1. Behavior Analyst Interns Karrie Lindvall and Brett Gilleo, located in Belgrade and Great Falls Montana meet with university internship supervisor Dr. Young-Pelton via Elluminate®.

At the time of this meeting one of the interns was preparing their agenda on the shared whiteboard titled "case information," and the other intern was getting ready to sign off by typing in the chat box space. Elluminate® could allow up to six web cameras operating at one time.

Conducting Online Internship Supervision

Weekly meetings between the university BCBA Supervisor and intern are an integral part of building skills in practical applications. Online supervision allows students to meet their supervisor without lengthy travel time and adequately facilitates the transference of the knowledge, skills, and abilities to be demonstrated at the practicum site. Live stream meetings conducted by video conferencing technology facilitate highly interactive discussions through the use of screen and file sharing capabilities as well as real-time communication (See Figures 1 and 2).

Prior to supervision meetings, interns are asked to plan an agenda to ensure that pertinent issues at their practicum sites are being managed. Recommended agenda items include discussion of specific client cases regarding presenting problems, current interventions, and possible future directions for behavioral planning. Once these priorities are satisfied early in the supervision meeting, the university BCBA supervisor reviews competencies and in-situ video files and may provide feedback on written assignments.

Good Results

With the crucial support of our Instructional Technology (IT) Department, online supervision meetings have been productive and helpful for students in the program. This is evidenced in internship course surveys. In addition, advance planning helps prepare for potential technical problems with interns who have difficulty with either their equipment or high-speed internet connections.

In a study of distance versus local supervision by this author and two previous interns in the program, interactions and exchanges in online and face-to-face supervision were coded and summarized for analysis. Local supervision was conducted primarily on campus or in the school classroom. Distance supervision was conducted in the practicum setting via webcam, e-mail, and phone conferencing. The study generated results showing virtually no difference in the quantity or quality of supervised experience—although the dependability of technology made quite a difference in whether or not weekly webcam meetings were considered successful (Young-Pelton, Yarbrough, & Russell, in review)!

Conclusion

As the field of behavior analysis continues to grow, online educational programs and distance internship opportunities will be necessary to meet the needs of students where they live and work—every remote area, underdeveloped service region, and rural community. At the same time, distance supervision of pre-service behavior analysts will continue to depend on reliable communication via secure web conferencing technology supported by the university IT Department. In addition, high-speed internet connections, webcam, video and audio technology in classrooms, agencies, residential treatment centers, and clinics will certainly expand their capabilities to connect with university programs. These ongoing improvements will meet the needs of graduate interns in distant locations. Supervision of graduate interns in behavior analysis can be accomplished easily when appropriate technology is available and when secure, reliable connections are made.

What impact has the MSU-B ABA program had on Montana?

As reported earlier, there were 4 behavior analysts with BACB credentials in 2011. In 2013, Montana now boasts 14 credentialed BCBAs. We are proud to say that 72% of Montana's behavior analysts have ties with the ABA program, and 7 of Montana's recently credentialed behavior analysts have completed the program at MSU Billings. This program is off and running well.

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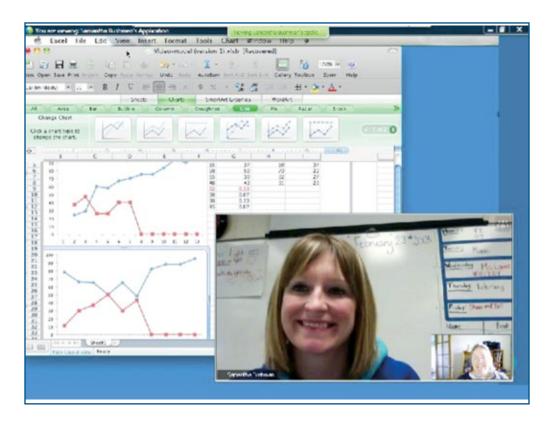


Figure 2. Behavior Analyst Intern Sammie Bushman meets with Dr. Young-Pelton via WebEx® to discuss collaborative research on a video selfmodeling project in her classroom for students with Emotional Disturbance.

The multiple baseline design study was planned during internship to improve learner behaviors during reading group instruction. In the graph, the blue series depicts an improvement in attending behaviors during reading group instruction and the red data path shows a decrease in maladaptive behaviors.

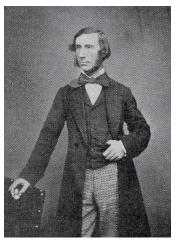
The shared file of raw data in this photo is directed by the intern from her Macintosh® laptop computer in her classroom using WebEx® application sharing mode for MS Office 2008 Excel®. Dr. Young-Pelton scheduled the meeting and supervised from her home office; her computer was a Dell® desktop PC.

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THE STRANGE DEATHS, VARIED LIVES, AND ULTIMATE RESURRECTION OF PROFESSOR TYNDALL

Michael S. Reidy

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Tyndall in his youth

Strange Deaths

JOHN TYNDALL DIED TWO STRANGE DEATHS, both at the hands of his wife Louisa. The first was accidental, quick, and relatively painless; the second was deliberate, prolonged, and far more agonizing.

Tyndall's first death occurred in 1893 on a cold December day in Hasslemere, south of London. The seventy-three year old physicist lay awake in his bed as the dim light of dawn filtered into his bedroom. Bottles littered his bedside table—sulphate of magnesia for his intestines and chloral hydrate for his insomnia. At 8:30 in the morning, his wife Louisa, twenty-five years his junior, came to his side to comfort him. He requested some magnesia, a mere spoonful, which she poured from one of the bottles and brought carefully to his lips. It tasted curiously sweet, he thought. Louisa panicked. She had accidentally given him chloral, an extremely powerful narcotic, killing one of the greatest scientists of the Victorian era.1

Tyndall's second death was even more bizarre. Louisa, devastated by her tragic error, concocted an unwittingly devious plan to bring her husband back to life. She would take control of all his journals, collect all of his correspondence, read all of his unfinished writings, and bring everything together in a monumental Life and Letters. Wracked by guilt, she devoted her life to gathering all of his materials. Whatever letters she collected she kept under wraps, intending to make them available only after she had completed her biography. For forty-seven years she toiled. Yet, year after year passed with no Life and Letters. When she died in 1940 at the age of ninety-five, she had published nothing to resurrect the life and work of her long-dead husband. He slowly faded from memory. With Louisa's grief and guilt, and with her failed promise of publication, Tyndall died a prolonged, lonely death taking Louisa's grief and guilt with him.

Tyndall's drawn-out second death partly explains why his fascinating life has been so largely overlooked. When other eminent

Victorians passed away, their multi-volume Life and Letters soon followed: Charles Lyell's in 1881, Charles Darwin's in 1887, Thomas Huxley's in 1902, Herbert Spencer's in 1908, and J. D. Hooker's in 1918. Victorians used these publications both to make sense of death and to foster a new, textual life. It is also to these collections that historians first turn to continue the act of resurrection. Sadly, Tyndall's first biography did not appear until 1945, and though it included selections from his personal correspondence, the letters had been heavily expunged of all things unpalatable. By then, the lack of a standard Life and Letters had already obscured Tyndall's place in the history of science and culture.

Varied Lives

Before Tyndall double death, he had lived several interconnected lives. The first was spent primarily in an attic surrounded by scientific instruments of his own design; the second either in front of fashionable audiences or behind the scenes, directing and popularizing the sciences of the day; and the third either alone or with a trusted guide, suspended precariously on the sides of high, alpine cliffs.

Born in Ireland under relatively poor circumstances, Tyndall became one of the most influential experimental physicists in the Victorian era, rising through the scientific ranks to succeed the legendary Michael Faraday as the director of the Royal Institution of Great Britain, one of the premier scientific positions in England. Tyndall undertook most of his sophisticated experimental research in the cramped attic of the Royal Institution. He became fascinated with the topic of radiant heat, particularly the manner in which atmospheric gases absorb infrared radiation. While nitrogen and oxygen were largely transparent to infrared radiation, he found that compound gases, such as carbon dioxide and water vapor, were relatively powerful absorbers of heat. The significance of this struck him immediately. In his paper to the Royal Society

of London in 1861, he announced, in astonishingly prescient terms, that any changes to the constitution of the atmosphere "would produce great effects on the terrestrial rays and produce corresponding changes of climate.... Such changes in fact may have produced all the mutations of climate which the researches of geologists reveal." This was the first experimental confirmation of what is now known as the natural greenhouse effect.

Tyndall's life as an experimental physicist overlapped with his second great life's work. He became one of the most outspoken advocates and controversial defenders of science in the nineteenth century. It was through his public lectures at the Royal Institution that fashionable audiences in London experienced the latest revolutionary discoveries in the burgeoning fields of physics and chemistry. His flamboyant lectures mixed practiced showmanship with extravagant experiments to present science as an exhilarating spectacle.

Tyndall's prominent position as a public lecturer contrasted sharply with his work behind the lecture curtain, where he deftly defended science from its religious critics. In this, he was more combative than eloquent. Along with biologist Thomas Huxley, philosopher Herbert Spencer, and botanist J. D. Hooker, Tyndall argued that naturalistic rather than theistic explanations could (and should) account for the workings of nature. He unflinchingly held forth as a leading figure in the debates over evolution, representing the powerful group of intellectuals who defended Darwin and his naturalistic worldview. He is often remembered for two debates in particular. In July 1872, he called for an experimental verification of prayer, embroiling himself in what was referred to as the "Prayer-Gauge Debate." American Methodists, in particular, were outraged; they set up prayer meetings in all the major cities on the East coast to pray for "poor" Tyndall's soul.3

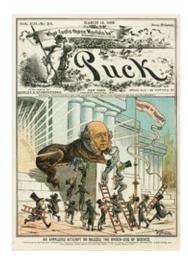
The second, more acrimonious debate followed directly from Tyndall's presidential address to the British Association for the Advancement of Science in Belfast two years later. Tyndall praised Darwin's accomplishments and dramatically declared that men of science "shall wrest from theology the entire domain of cosmological theory." The speech scandalized Christian clergymen and intellectuals, who responded with numerous pamphlets,

newspaper editorials, and journal articles. In the press, he was satirized as the spokesperson for science who some believed needed a muzzle.

Tyndall's third life was confined to the lofty altitudes of the Swiss Alps. He was one of the figures largely responsible for the growth of mountaineering as a sport, a pioneering alpinist during the "golden age of mountaineering." He spent almost every summer from 1854 until his death in 1893 turning the Alps into what Leslie Stephen famously called "the playground of Europe." His scientific colleagues admonished him for brazenly putting his life at risk. He climbed Mont Blanc several times, spending twenty hours on the summit after his third ascent, longer than any other person had dared to remain on top of Europe's highest peak. He was also the first alpinist to study the approaches to the Matterhorn, narrowly missing the first ascent. He was the first to turn the mountain into a pass, climbing the more difficult traverse up the Lion's Ridge from Italy and down the Hornlike Ridge to Switzerland. Even more astonishing (and controversial), he made the first solo ascent of the Monte Rosa, Europe's second highest peak. At the time, climbers were called "amateurs" because they were required to hire professional guides, so Tyndall's solo ascent helped pioneer guideless climbing while earning him the wrath of the climbing community.

His crowning achievement in mountaineering took place on August 19th, 1861, when he made the first successful ascent of the majestic Weisshorn, a solitary snow-covered peak in the Pennine Alps. At 4504 m (14,780 ft.), it was a daunting prospect, with crevassed glaciers at the beginning, rock and ice bands in the middle, and a massive fifty-degree pyramidal snow slope guarding its upper reaches. Tyndall began with his guide J.J. Bennen and porter Ulrich Wenger in the small town of Ronda, bivouacked mid-way up, woke at 2:15 the next morning, and—with a flask full of wine and a bottle of champagne—reached the summit in twelve hours. "The work was heavy from the first," Tyndall boasted, "the bending, twisting, reaching, and drawing up calling upon all the muscles of the frame."5 He returned to England a hero, one of the reasons why his name lives on in mountain ranges, peaks, and glaciers throughout the world, from Europe and North America to Africa and New Zealand.

BORN IN IRELAND UNDER RELATIVELY POOR CIRCUMSTANCES. **TYNDALL BECAME** ONE OF THE MOST **INFLUENTIAL EXPERIMENTAL** PHYSICISTS IN THE VICTORIAN ERA, **RISING THROUGH THE SCIENTIFIC RANKS** TO SUCCEED THE **LEGENDARY MICHAEL FARADAY AS THE DIRECTOR OF THE ROYAL INSTITUTION** OF GREAT BRITAIN, **ONE OF THE PREMIER SCIENTIFIC POSITIONS** IN ENGLAND.



Tyndall Caricature, Puck Magazine, 14 March 1883, "An Appalling Attempt to Muzzle the Watch-Dog of Science"



Tyndall hanging on the side of a cliff in the Swiss Alps, from Hours of Exercise in the Alps (1871). (Detail.)



Climbing the Weisshorn in 2011 to mark the 150th anniversary of the first ascent. Photo by Michael S. Reidy

Ultimate Resurrection

Tyndall's influence reached far beyond Britain, producing an enormous international network of scientific colleagues stretching from England to the Continent to America. But lacking a *Life and Letters* following his death, his influence on subsequent generations has been minimal—until now. Taken together, his recently examined letter archives hold the promise of opening a new window of understanding into significant aspects of Victorian science, society, and culture.

Montana State University is at the center of resurrecting Tyndall's life and work through the John Tyndall Correspondence Project, a large-scale, international "big history" collaborative project that will eventually publish more than 8,000 of his letters in twelve volumes. The first volume will appear next year, with subsequent volumes following every six months. The Project includes two other general editors, twenty-four volume editors, and over sixty transcribers working in four countries on three continents. The process of collecting, digitizing, transcribing, and editing these letters has galvanized a large, international community of scholars at various stages in their careers around core themes in the history of science and culture.

As is the case with other correspondence projects, such as the Darwin Project, the Tyndall endeavor has already led to new research trajectories, requiring scholars to significantly revise their perspectives on 19th-century science. For example, I have found in his letters evidence of how he viewed the relationship between his scientific research and his mountaineering exploits. He deliberately formulated most of his research programs based on his ability to climb mountains, consistently performing experiments and comparing observations made at different elevations. His letters also have shown the close link between his alpinism and his growing agnosticism. The height of his climbing came in the early 1860s, the same time he was formulating his agnostic views. Mountaineering enabled him to experience nature firsthand, to see its laws in action. Yet, for Tyndall, there was always something more to nature than laws. In the Alps, he experienced an otherworldliness that he never found in a religious setting and could not search for in a scientific laboratory.

On the sides of mountains, Tyndall found a worthy replacement for his lost faith.

If the planet were not warming, turning the natural greenhouse effect into global warming, the new climatology center in Britain, the Tyndall Centre for Climate Change Research, would not bear his name. And if the debates over evolution were not still being fought, his staunch defense of naturalism would not resonate so clearly. As interest in Tyndall continues to grow, and as his life and work continues to sound prescient to modern ears, we will keep discovering in his correspondence fresh answers and exciting new possibilities for future research.

Tyndall always loved the mountains, a passion he shared with his wife, Louisa. Together, they built a summer home in the Swiss Alps. I think he would have loved the mountains of Montana as well; I wish he would have visited the Rockies before his untimely death. As he lay in his bed in Hasslemere that cold December day, the taste of chloral hydrate sweet on his lips, I also wish I could have whispered in his ear to tell him just how exciting his long overdue resurrection would ultimately be.

Footnotes

- ¹ "Mrs. Tyndall's Fatal Error: She Tells How She Gave Prof. Tyndall the Chloral Dose," *The New York Times*, December 25, 1893.
- ² John Tyndall, "The Bakerian Lecture.—On the Absorption and Radiation of Heat by Gases and Vapours, and on the Physical Connexion of Radiation, Absorption, and Conduction," *Philosophical Transactions of the Royal Society of London*, Vol. 151 (London, 1861), pp. 28-29
- ³ The Prayer-Gauge Debate by Prof. Tyndall, Francis Galton, and Others, against Dr. Littledale, President McCosh, the Duke of Argyll, Canon Lyddon, and "The Spectator" (Boston: Congregational Publishing Society, 1876)
- ⁴ John Tyndall, Address delivered before the British Association assembled at Belfast. With Additions (London: Longmans, Green, and Co., 1874), p. 197
- ⁵ John Tyndall, *Hours of Exercise in the Alps* [1871] (London: Longman, Green, and Co., 1873), p. 98.

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ANGELA MCLEAN, CHAIR, BOARD OF REGENTS OF THE MONTANA UNIVERSITY SYSTEM

Online education is expanding rapidly everywhere. While this approach to delivering courses is efficient and cost-effective, many faculty think that online instruction denies students the opportunity to share elements of the learning experience that can only be realized in the classroom. Setting aside the matter of distance education, a natural and important context for online instruction, how do you respond to concerns about the limitations—some of which are considered severe—of online courses.

I sense most Montanans believe access to higher education is important and we should strive to improve opportunities for teaching and learning. The world increasingly is a busy and complicated place. Potential students and current students have many demands on their personal time and their pocketbooks. Our goal for online or digital learning is to reach students where they are and create opportunity for all types of learners in all situations and environments. I know members of the Board of Regents are committed to supporting high-quality education in every delivery we offer. For students who are raising families and working multiple jobs, the chance to complete a course online might truly be the key to open doors that once were closed on educational opportunity. We have to remove barriers and open more doors to meet our goal of 60 percent of Montanans with a college degree by 2020. Online learning will never replace the face-to-face experience of a classroom, but I think it supports readiness and preparation for the classroom. Online learning might not be for everyone. But for those who can benefit from it, online delivery seems important for recruiting and retaining students who might not otherwise enroll in college or set foot in a classroom.

The university system is often perceived as being driven more and more by a business model of management. Without question, keeping the enterprise fiscally strong is critical, particularly in these difficult budgetary times, but isn't there a risk that we are losing sight of what higher education is all about?

The members of the Board of Regents are strong advocates for a business model that supports teaching and learning and the people who are at the heart of education and research students and faculty. As an educator, I believe a diversity of models must be employed to meet the needs of our students. The business model and the measurables that come with it are key to accountability. Montana is not alone in our challenges with education funding. I doubt there is a Legislature in any state that is eager to increase funding for a university system that isn't eager to increase degree production. Now more than ever before, it is vital that we set reasonable targets and work together to reach them if we expect to secure a strong state investment in higher education.

It's not just funding and numbers of degrees. In my view, it is exciting that we as a board and as a system are increasingly involved in conversations about providing for the "whole" student. To meet our goals, we can see we need to support faculty and staff in supporting so many facets of the complete student experience. This includes need-based aid, time-to-degree options, credit load, and countless pieces of helpful advice for students on navigating the waters of the university system.

I feel very assured that regents and administrators value the role of education as importantly as the faculty and staff who directly serve our students. I am the youngest in a family of seven and one of four to graduate high school. I am the only member of the household I grew up in to achieve a college education. I feel qualified to say I understand the role of education as a great equalizer. I know that every member of the Board of Regents, the Commissioner and his staff, and all our campus leaders understand the vital piece that higher education plays in opportunity for the American Dream. Those opportunities must exist for all students, where they are in place and in life, not exclusively for those who excelled academically in high school. Sometimes that place includes less-than-perfect grades and a student who is holding town one or two jobs and raising a family. We need to structure innovative opportunities for all to gain a better society for all.



Regent Angela McLean

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I AM THE ONLY **MEMBER OF THE HOUSEHOLD I GREW UP IN TO ACHIEVE A COLLEGE EDUCATION.** I FEEL QUALIFIED TO **SAY I UNDERSTAND THE ROLE OF EDUCATION AS** A GREAT EQUALIZER. I KNOW THAT EVERY **MEMBER OF THE BOARD OF REGENTS.** THE COMMISSIONER AND HIS STAFF, AND ALL **OUR CAMPUS LEADERS** UNDERSTAND THE VITAL PIECE THAT HIGHER **EDUCATION PLAYS IN OPPORTUNITY FOR THE** AMERICAN DREAM.

There is growing concern that the university system is becoming top-heavy administratively and that faculty leadership and influence are belong slowly eroded—this in spite of the fact that higher education is first and foremost an academic enterprise. Do we need to get back into better balance?

The Montana University System made some headlines in January 2013 when some legislators questioned the number of administrative positions in the system. The catalyst for the dialogue was a Wall Street Journal article that reported on another state's effort to reduce administrator positions and administrative expenditures on the "top" end of the organization. We were pleased to see through objective analysis that our system in Montana is relatively lean by a remarkable margin. In the last 10 years across the system, for example, the number of new faculty positions grew at twice the rate of new administrative positions. That said, I think the point is well taken that the best way to support student learning is to ensure students are engaged with and supported by faculty and staff who know and can see that their contributions are valuable to the system.

I sense, in my time on the board, we have elevated the conversation with faculty and staff to historic levels. I say that simply because that is the feedback we've received from faculty and staff representatives. We greatly appreciate that feedback. The board's highest legislative priority is securing a meaningful legislative appropriation for faculty and staff compensation so we can continue our excellent service to students for another two years at an affordable tuition price. Last year, the board formed compensation focus groups with faculty and staff to examine the system's most important compensation issues. Last month, I attended a meeting of the Coalition of the Union Faculty (CUF) to work on data and methodology for market-based salary comparisons and solutions to salary inversion and compression. We're looking forward to board updates and dialogue on this subject in May 2013. The members of the Board of Regents highly value the several breakfast meetings and lunch meetings we have with faculty representatives throughout the year, every year, to discuss issues of paramount importance. These are positive, forward thinking conversations where open dialogue is encouraged and expected by all.

MP: It is considered troubling in some academic quarters that no one on the BoR has any experience in either teaching or administration in higher education, and yet the Board is charged with setting direction for the system. Isn't this a problem?

Our faculty members who teach and who research in the disciplines of political science and education have long noted the attributes of Montana's constitutional structure of higher education. The elected delegates who framed our state constitution, and the voters who ratified it, gave us a volunteer governing board of lay citizens. In Montana, the people didn't desire or provide us a state department of education administered by the Governor's cabinet, or by an administrative board of academic officers. Ours is a board of lay citizens who bring a lot of diversity to the table. Our task is to guide and support the tremendous faculty, staff, and administrators of the Montana University System. I can't really say if it's "a problem" that Montanans don't require the appointment of a professor or an administrator to the board. But I can say this board works hard to involve and engage faculty, staff, and administrators at all levels.

Does the Board have a process that gets members onto campuses to interact with faculty (other than regular meetings)? If not, wouldn't this be a good idea?

As volunteer board members who serve in an unpaid capacity, we're eager and able to devote a great number of days to visiting campuses and interacting with faculty. As you might expect, a lot of those visits and interactions are scheduled in conjunction with regular meetings of the Board of Regents. Also, a number of us on the board are occasionally on campus and interacting with faculty outside the regular meeting schedule, for example, as part of various tasks forces or focus groups. In addition to those interactions, depending on where each regent lives, he or she might make even more visits to campuses closer to his or her home community in Montana. I like the idea of a regular process that gets board members onto campuses for interaction with faculty outside of our regular meetings and will examine the best approach for doing so with board members and our commissioner.

What role does the BoR play in working with the state legislature to provide more financial support to the MUS? Shouldn't the Board be more assertive and influential with our legislators?

[As of this publication date:] The legislative session is just a little past the half-way point, and there is a lot of work ahead. The good news is, as things stand now, we have secured strong levels of funding in the state general fund appropriations act, House Bill 2. Those funding increases would largely cover inflationary costs of utilities, library materials, and other routine overhead costs that are rising. As for salaries and compensation, we are working hard to generate legislative support for a pay plan that would allocate funds to the university system for faculty and staff pay raises. At the time of this writing, a state employee pay plan bill—House Bill 13—has been defeated in the House Appropriations Committee, but is likely to be revived in some fashion. We will stay vigilant and active in our advocacy for a pay plan. Commissioner Christian, his staff, our campus presidents and members of the board have engaged in concerted communication efforts with legislators dating back to last May and have continued through this session. We have worked across party lines toward the mutual goal of a more college-educated Montana. We have a tremendous working relationship with both the legislative and executive branches of government. I am confident this situates the university system positively in the legislative process.

What are some of the "big picture" goals of the Board of Regents?

I know that top priority is the recruitment and retention of high-quality faculty and staff. To meet any other goal, such as more student completions and graduations, we must be able to attract and support and keep the dedicated faculty and staff who invest their careers in the Montanan University System. Our compensation focus group, consisting of faculty and staff and regents and campus leaders, is coordinating and working closely with faculty union leadership on improving some tough salary situations. Other goals include affordable tuition prices and better support of student success. The state and the board are striving to provide 60 percent of Montana's adult population with a college degree or certificate of completion. We need to work as a system to develop access points and procedures for all types of learners at all stages of their lives in order to reach this goal. Of course, in reaching that target, we must also consider affordability. There are a lot of moving parts within this framework of high-priority goals. For example, our top legislative priority this session is the College Affordability Plan (CAP). The CAP is a carefully crafted package that would increase state funding for educational programs and for faculty and staff pay raises if the university system freezes tuition prices and allocates some state funding to campuses based on institutional performance in degrees and completions. The CAP is still intact well past the mid-point of the Legislature (late March 2013). We have a lot of work ahead to keep the pieces together.



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on Online Education

ONLINE EDUCATION: PANACEA OR ILLUSION?

Henry Gonshak, PhD

Professor of English, Montana Tech of the University of Montana



Henry Gonshak

Some years ago, I attended a Montana Professor editorial board meeting with the then-Commissioner of Higher Education in Montana, who laid out his plan in great detail for the future of our state's university system. In a nutshell, his proposal was that the entire system should go exclusively online. He argued that in our computer age, online learning was the future of higher education in America, because it allowed students to learn on their own schedules, without having to set aside specific times to attend class, an arrangement that worked particularly well for nontraditional students, the fastest growing segment of the student population, who were often saddled with jobs and families. He said Montana was in an ideal situation to lead the nation in this online endeavor, because we were a sparsely populated state covering a large geographical area, and therefore it was especially burdensome for Montana students to make the often long trips required to attend a traditional class. In the commissioner's re-envisioned online classroom, teachers would go from being, in the lingo he adopted, no longer the "sage on the stage" but now the "guide on the side." In other words, rather than lecturing to a group of students in a classroom, teachers would facilitate students' computer searches as they cruised around in cyberspace accessing the wealth of information available.

I sat there at the board meeting, listening to the commissioner expound his grandiose scheme, my jaw dropping quietly to the floor, imagining spending the rest of my professorial career holed up in my office, hunched over my computer screen, never actually meeting a flesh and blood student. I felt like I'd rather be digging in the mines of Butte, contracting consumption. Fortunately, somebody in the administration of higher education in Montana—whether the Board of Regents, or the Assistant Commissioner, or the legislature, or the governor—succeeded in thwarting the Commissioner's dystopian stratagem, because during his singularly mediocre tenure as commissioner, online education may have increased to some degree, but it never attained the massive proportions he envisioned.

One can see the temptations of online education, however, especially to administrators. For one thing, it's a cash cow. So long as it's unnecessary to corral a given number of students in a physical room, the number of students who can be serviced by a single professor is literally infinite. I heard about a Penn State English professor who's offering a Modern Poetry MOOC that includes literally thousands of students from all over the world. When I heard the professor interviewed on National Public Radio, he insisted that his hordes of students were not paying tuition, just a nominal computer fee, and also that they were not receiving college credit for the class. But who's to say that a future teacher taking over the class will observe this professor's moral scruples, especially since the Penn State administration must be drooling onto its bottom line at the thought of all those millions of tuition dollars rolling in?

If online education did as good a job as traditional education, I would be all for it. But it doesn't. There is simply no substitute for the in-person, face-to-face interaction between a teacher and a group of students in the classroom. Traditional education is remarkably low-tech. In my class, we have a bunch of desks arranged in a circle, a copy of a book on each of those desks, and that's it. We could be holding class in a cave in the Himalayas, and things wouldn't be essentially changed. Traditional education hasn't fundamentally altered in thousands of years. There isn't much real difference between my literature class at Montana Tech in 2013, and Socrates traipsing over the hills of ancient Athens centuries ago with his disciples discussing the meaning of life. I think it's the fact that traditional education, especially in the humanities, is so low-tech that makes it immediately suspect to a good percentage of our technologicallyobsessed culture, including our elected representatives. What, no computers, no cell phones, no iPods, no cameras, no power-point presentations? No, nothing except the magic that can transpire when fertile minds interact about the things that matter in life.

Of course, one might argue that meaningful intellectual discourse can be achieved just as easily via computer, through online chat rooms or the other venues computers offer for dialogue. Given how much time people today spend communicating through the computer, whether via Facebook or email or web sites, it would seem that computer chatting is fast becoming the dominate mode of communication in our culture. But I wonder if something hasn't been lost in the decline of face-to-face conversation. I like to be able to actually see the person I'm talking to. After all, don't the psychologists tell us that the most important part of communication is non-verbal? There's something inexpressibly wonderful about seeing the twinkle in a student's eye or the smile that crosses her face when that student suddenly hits upon an interesting idea. Or the roar of laughter that rolls across a classroom when someone says something funny. One of the best experiences I've ever had as a teacher was when I'd assigned Dostoevsky's novella, Notes from Underground. It was the day before Thanksgiving, and only the best students were in attendance. I confess that when I'd read this complex novella I hadn't really understood it, and I came into class unsure what we'd discuss. So, I mostly just sat there and listened to my students, one by one, with considerable eloquence, explain to me Notes From Underground. By the time the period was over, it seemed like the entire class was convinced that not only was Dostoevsky's novella a literary masterpiece, but that it was also the saddest story any of us had ever heard. We sat there looking at each other, on the verge of tears, overwhelmed by the poignancy and tragedy of the novella. I am convinced that this experience could not have been duplicated on a computer.

I've heard the argument that online education is a boon to shy students, because such students might not be willing to speak in front of a group in class, but they do have the courage to post a response online. To those students, I say, why not use the traditional classroom as an opportunity to learn how to speak in front of a group (a key skill no matter what one's career path)? After all, a patient, sensitive teacher, who creates a relaxed, comfortable in-class environment, can usually coax a response out of even the most introverted student. Who wants to go through life

bubbling over with ideas but never having the guts to express them in public? Public communication is one of the things that defines our humanity. I know I have had students who told me they never spoke in another class who in my class were downright verbose.

I am not a Luddite. I am not anti-computer. When I was a Fulbright scholar in Poland, my lap-top was my sole connection to my native land. I even have a Facebook Page, and every once in a blue moon I check it and am invariably enlightened to discover what my friends have had for breakfast or what their favorite TV shows are. And I think online learning can be valuable as a supplement—but never as a substitute—for traditional education. If someone desiring an education is holed up deep in the mountains of Montana and has no way to travel to a traditional classroom, by all means have him or her take a class online. By the same token, if someone else is working a full-time job, and raising a family, and only has time to do schoolwork late at night, after the kids are in bed, yes, he or she, too, is an ideal candidate for online education. But none of these people should be under the illusion that the education they are receiving is equivalent to what transpires in a traditional classroom. Nor, with all due respect to that former Commissioner of Higher Education in Montana, should anyone tout the foolish proposition that exclusively online learning represents the future of education in America. WE SAT THERE
LOOKING AT EACH
OTHER, ON THE
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LEARNING IN THE TIME OF MOOCS

Robert Squires

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THIS APPROACH MAY **SOUND SIMILAR TO HOW MANY OF OUR QUALITY LEARNING EXPERIENCES ARE CURRENTLY CONSTRUCTED. BUT** WHAT IS DIFFERENT— AND WHAT MOOCS **CAN PROVIDE US A DEGREE OF INSIGHT** INTO—IS HOW THE **POTENTIAL TO ENGAGE IN LEARNING HAS DEVELOPED WITH THE USE OF THE INTERNET** TO BECOME AN EVER-PRESENT ECOSYSTEM OF INFORMATION, **EXPERTISE** AND POTENTIAL CONNECTIONS.

It is perhaps safe to assume, in this context, that the reader has substantial teaching experience, so please reflect for a moment on a simple question: How do you plan for student learning? There are myriad answers, but on analysis these will be informed by experiences within institutional cultures and two competing ways of viewing education: one where curriculum and course content is considered to be of primary importance and a second where students and their

institutional cultures and two competing ways of viewing education: one where curriculum and course content is considered to be of primary importance and a second where students and their individual learning pathways are considered to be most important¹. Your particular thoughts on this matter will determine, in fair measure, the type of pedagogical approaches used when constructing educational experiences. In courses where the curriculum and course content is thought to be most important, we might expect to find activities where knowledge is delivered and organized by the expert(s) and where assessments invoke answers that are deemed to be correct. Lecture classes and packaged online courses with multiple choice assessments fall at this end of the spectrum. In courses where the student is considered to be central to learning, you will find greater student input in course planning, collaborative and guided inquiry-based approaches, and assessments that demonstrate creativity and real-world applications of knowledge. Small group tutorials, lab-experiences, and online courses based on constructivist learning principles lie at this end of the spectrum. While different approaches and combinations may work better in different contexts, a growing body of research in the learning sciences supports the creation of experiences that provide students opportunities to emotionally and cognitively engage in ways that are personally conducive to learning. (See research at the National Center on Universal Design for Learning, http://www.udlcenter.org/research/ researchevidence).

For most of you, there's probably nothing groundbreaking in this last paragraph, but it's important to rehearse these considerations before discussing Massive Open Online Courses (MOOCs). Following recent news in the *Chronicle Of Higher Education, Campus Technology*, and *Inside Higher Education*, you could be forgiven for thinking MOOCs represent the end

of engagement, taking us into a neo-industrial age where learning is standardized, automated and delivered to the masses by superstar professors who are few and far between. This is one (corporate-driven) possibility, but in pedagogical terms, it falls at the same end of the spectrum as the traditional lecture class or packaged online course rather than at the end focused on placing students at the center of the learning experience. There is no reason why MOOCs need to utilize predetermined content and standardized assessments any more than undergraduate courses need to have lectures and multiple choice tests. In fact, MOOCs began in a tradition that directly challenges that top-down distribution of knowledge. In Siemens's words, the pedagogical approach is to "make sense of complex knowledge by connecting to others, creating and making "stuff," and engaging in discourse and interacting with the ideas of others" (Siemens, 2012, para. 20). This approach may sound similar to how many of our quality learning experiences are currently constructed. But what is different—and what MOOCs can provide us a degree of insight into—is how the potential to engage in learning has developed with the use of the Internet to become an ever-present ecosystem of information, expertise and potential connections. This shift from learning that is bound by institutional location and resources to ubiquitous access to knowledge and the knowledgeable throughout the world suggests several key considerations for instructors in Montana, especially those working toward UM President Royce Engstrom's vision of "Education for the Global Century." These broadly fall into three categories: getting connected, overcoming constraints, and demonstrating, above all, that quality counts.

Getting Connected

Last summer, I co-designed and taught a graduate level multicultural education online course through the Curriculum and Instruction department at The University of Montana. The course had 20 regularly enrolled students and about 20 guest participants—including individuals from four continents as well as several students and a professor of multicultural education from

¹John Dewey articulated this tension between a curriculum and student centered perspective over a century ago in The Curriculum and the Child (1902): http://www.gutenberg.org/files/29259/h/29259-h/29259-h.htm.

Long Island University in New York. This could have been called a Mini Open Online Course, but we chose the more celebratory "Wee Open Online Togethering," or WOOT! As expected, the vast majority of these participants were simply curious and did not participate much. However, the contributions of the participants from Tunisia, Argentina, and Venezuela provided cultural insights that would have otherwise been unavailable to the enrolled students. It also provided the opportunity to make meaningful connections to people who had a personal interest in similar topics outside of the classroom. One unexpected product of this coming together occurred when the participant from Venezuela, who completed his doctoral work at MIT, decided to discuss his experiences of the course in a Google hangout. His point was that individual opinions needed to be more adequately grounded in the research. This was a perfect opportunity to reinforce course expectations, but also situate these academic expectations within the context of the 'real world', which for many students is the place that is encountered after university.

Overcoming Constraints

As an undergraduate student of literature in Aberdeen, Scotland in the early 1990s, I remember having my first conversations about email and the Internet. These days, a motivated student with the understanding that the Internet is a portal to both people and information can readily access the latest articles, discussion groups, and communities of practice and strike up conversations with thought leaders in the field—wherever they may be. In such a world, it is no less incumbent on the instructor to be actively engaged in the learning of his/her students, but it is less necessary to be the source of definitive knowledge. To overcome our limitations in the multicultural education course, we invited Dr Geneva Gay, Professor of Education at the University of Washington and Dr Paul Gorski, Assistant Professor at George Mason University to join us. Both web conferences provided unique insights on race, gender, and social justice, but what was arguably as pleasing as interacting with their ideas was that the sessions modeled the great value of including alternative voices in a learning experience, and how easy it was to connect with professionals who are more than willing to share with those who demonstrate a genuine interest.

Quality Counts (above all)

Opening a course to the world will not really do anything for our existing students unless the course is well organized, has our active attention, and displays an effort to design a rewarding experience for everyone involved. There are several frameworks to help design this type of course, including backwards design (Wiggins and McTighe, 2001), the Community of Inquiry Framework (Swan, Garrison, & Richardson, 2009) and Universal Design for Learning (http:// cast.org). However, it's still possible for a carefully designed course to fall flat if an element of excitement isn't built into the experience. This can be done through incorporating choices, creating alternate learning pathways, designing an engaging look and feel, using powerful multimedia, and extending the learning into spaces where students have more control—in other words, being creative. Fortunately, the ability to address the needs and interests of our students has been the hallmark of education in the Montana University System for many years. And, I believe, this is still the area where we have a great deal to offer on the local, national and international stage in the time of MOOCs. Size can bring great potential, but unless we put people at the center of the learning experiences, we will likely find that we have missed the point.

Conclusion

MOOCs, like any other type of course, can serve a host of pedagogical aims, but what they have shown us is the power for students to connect with learners throughout the world and access leaders in the field. They have demonstrated that the most current knowledge and expertise is accessible to everyone, and we can harness these resources for our own purposes if we are willing to reach out. They have also shown us that it's possible to bring the world to Montana in a way that is harmonious with the care and attention Montana faculty have traditionally shown their students. Whether courses are massive, open, or online may ultimately be moot. We are challenged today, as perhaps we always have been, with creating rewarding educational experiences that will foster the leaders of the future. The bottom line is that being able to situate contemporary learning experiences within a hyper-connected digital world is more necessary than ever in helping students realize their own goals as they operate in a world that continues to become more complex.

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TRANSFORMING A RAPE-PRONE CULTURE: COMMUNITY CHANGE IN CYBER SPACE

Danielle F. Wozniak

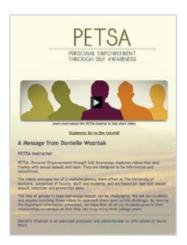
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Screen grab from PETSA website

THIS PAST YEAR, the nation read gut-wrenching stories about victims of rape and sexual assault at colleges and universities. We dealt with this tragedy at The University of Montana where our students experienced sexual assault, rape, and gang rape. While rape has been historically a private matter, shrouded in a victim's shattered sense of agency or relegated to the margins of campus life, this year victims' experiences were brought into sharp focus in the national press. News stories consistently portrayed victims' experiences and their struggles to deal with the ravages of trauma. But describing and understanding are separate things and often media descriptions of the issue obviated the latter. Even with the nation's gaze trained on Missoula, Montana, we failed to see rape as a national issue woven into the fabric of our society. By describing rape as a crime involving only two people, too many of us ignored the reality that rape is sustained by every member of a community. There is good news and bad news in this broader understanding of sexual violence, and they are part of the same picture. If rape emanates from our communities, then the problem goes far beyond micro-level explanations based on relationships between men and women. Rape occurs in our communities because sexual violence is not just normed, but it is accepted and supported by each one of us. The good news is that we can do something to create dramatic change. We can change the norms and alter the culture.

Dynamics of College-Based Sexual Violence

The behavior leading to rape and often rapes themselves on college campuses are hidden in normalized milestones of college life—drinking, dating, and sexual experimentation. This can lead to conflation errors that impede understanding and hinder intervention. These activities are not the cause of rape; they are a part of it. According to the AAUW, 95% of all

sexual attacks on college campuses go unreported, making sexual violation a "silent epidemic." The Center for Disease Control tells us that 1 in 5 women in the United States has been raped and significantly more than half have been raped by an intimate partner or an acquaintance. More than 79% of these victims were raped before their 25th birthday¹. A conservative estimate from the AAUW suggest that 3% of college women nationally are victims of rape. The National Institute of Justice points out that 3% doesn't sound like a staggering number until you think about it this way: For every 1,000 women attending an institution of higher education there are 35 incidents of rape in a given academic year. For a campus with 15,000 women, this would mean the number of rapes could exceed 450. When projected over the nation's female student population this means several million—a number that most would say is very disturbing.

In cases of college rape, 90% of women know their perpetrator, and 75% of the time, the offender, the victim, or both have been drinking². This is significant because men are more likely than women to assume that a woman who drinks alcohol on a date is likely to be a willing sex partner. Forty percent of men who think this way also believe it is acceptable to force sex on an intoxicated woman³. Then there are statistics that raise questions about students' understanding of sexual norms, their beliefs about intimate relationships, and the nature of rape itself. For example, in one study of college age dating behavior, 43% of men said they used coercive behavior to have sex (including ignoring a woman's protest, using physical aggression, and forcing intercourse) but did not admit that it was rape4. Seventy-one percent of rapes are planned in advance⁵. Almost 50% of women who were raped on college campuses did not consider what had happened to them rape, even though their experience met the criteria for rape⁶. Of college women who were raped, 42% expect to be raped

again⁷. These statistics suggest that for too many college students rape is a normalized part of campus culture.

This is corroborated by statistics from the Center for Disease Control, the FBI and the National Institute for Justice, making sexual assault a macro-level issue that women across our country and around the world face on a daily basis. We live in a society where violence against women is minimized, silenced, and ignored, and women are often unjustly blamed for complicity in rape—a society that many scholars term a rape culture or a rape-prone culture. As Walter Moseley and Rae Gomes recently posted on The Nation website, "Rape culture exists because we don't believe it does. From tacit acceptance of misogyny in everything from casual conversations with our peers to the media we consume, we accept the degradation of women and maintain that uncontrollable hyper-sexuality in men is the norm"8. The national press coverage of the issue of sexual assault at UM and in Missoula too often supported these perceptions. Media suggestions that something is "wrong" with Missoula or with the University of Montana are an aspect of rape culture because it shifts the blame from the social and political inequalities that women and other marginalized groups face in our culture to arguments that there are just a few crazies out there at that college or in that community, and if we could just get them off the streets (or as the "Jezebel" website suggests, don't go to Missoula, Montana9), all will be well. But it won't be, and that's because the issue cannot be dealt with on the micro level. It is a public health issue and needs to be addressed through public awareness, understanding, and education, culminating in intentional social action and culture change. With this in mind, we decided to program a novel approach to transforming our campus culture.

Education and Change

Utilizing a public health strategy aimed at creating a social climate within which antiviolence attitudes and pro-social behaviors could flourish, we designed and implemented an educational tool: *Personal Empowerment Through Self Awareness*—or simply PETSA—an online educational and public awareness intervention that, within a few weeks, reached every single member of our campus community.

The tutorial, tailored to the needs of our students and delivered in a series of videos,

presents the legal and educational consequences for committing sexual violence by shifting the paradigm of rape from that of an unfortunate but natural extension of sexual activity on college campuses to criminal and morally offensive behavior. After beginning with the legal definition of rape ion Montana, the narrator calls students' attention to their responsibility to recognize and respond to verbal and non-verbal cues in sexual negotiation. This de-naturalizes one-sided sexual negotiations in which men pressure women for sex and places responsibility for social intelligence on all parties, including bystanders. The tutorial also offers a template for thinking through the moral imperatives of adulthood premised on reflection that exposes equivocation. We also address myths about sexual assault that provide a defensive screen behind which perpetrators hide to escape responsibility.

While the first iteration of PETSA is not perfect, our goal has been to make rape prevention a center-stage priority across our campus, to provide the opportunity to wrestle with beliefs, values and attitudes about gender and power relations, to educate our community about the nature of sexual violence and how we might all play a role in reducing it. Our intent was to create portals of interaction with the material in cyber space that could lead to transformational activities within our community. For example, it is very difficult for a 20-year-old to initiate conversation about sexual assault. It's hard to find words to actually get the conversation going—"Hey let's have a cold one and talk about rape." But students could talk about PETSA and the information they received. We have heard of students discussing PETSA in their classes, joining faculty and staff for regularly scheduled face-to-face discussions, emailing and calling with questions, writing about the tutorial in the campus newspaper, and discussing the content while playing Frisbee on the campus lawns. An online experience was creating an off-line analysis; an online tutorial was creating space for face-to-face discourse.

We expected that making the tutorial mandatory and having it directly confront entrenched behaviors would cause resistance. We were partially correct. With a 4 to 1 positive response to the online tutorial, we clearly struck a chord when we asked for a community response to the problem. However, several students claimed that the tutorial violated their rights. Others insisted that we got our statistics

RAPE OCCURS IN OUR COMMUNITIES BECAUSE SEXUAL VIOLENCE IS NOT JUST NORMED, BUT IT IS ACCEPTED AND SUPPORTED BY **EACH ONE OF US.** THE GOOD NEWS IS THAT WE CAN DO SOMETHING TO **CREATE DRAMATIC** CHANGE. WE CAN **CHANGE THE NORMS** AND ALTER THE **CULTURE.**

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all wrong, making the tutorial invalid. About a dozen other students insisted that since they "weren't the cause of the problem" i.e. not rapists, they should be exempt from the requirement. Part of our work was to talk with all of these students and engage them in a process where they wrestled with their beliefs about dating, drinking and sexual consent. Indeed for some, working through questions about how rape happens, having doubts about the statistics in the videos and disbelief that this was an issue on our campus provided points for critical thinking about the issue. To assist this process we answered each email, returned every phone call, and invited all students to think with us about the informational material.

For other students the online material triggered emotions stemming from personal experience with sexual violence, either their own or knowledge of someone else's pain. These students often reacted angrily to the tutorial only to have their offense transformed in subsequent communications into rage, bitterness, and helplessness about the culture of rape in general. For these students we offered support, referral to services, the assurance that they were not alone, and an invitation to collaborate with us as active agents of change on campus. This became an important part of individual and social transformation. Students, disempowered and silenced through victimization, found a way to heal that benefitted our entire community.

We were also steadfast in our requirement that all students become educated about rape since the idea that intervention should be targeted only to perpetrators and/or victims removed the responsibility everyone bears to create a violence-free campus and a changed culture. More than just our idea as sexual assault prevention directors, the program became an administrative imperative. University of Montana President Royce Engstrom introduced the tutorial with this message:

Sexual assault, rape, partner violence, stalking or sexual harassment can happen on any campus, and they have happened on ours. It is a tough topic to address, but it is an important one. The University of Montana is maximizing its effort to provide a safe and healthy environment for everyone. Let me be clear. Sexual violence of any type will not be tolerated on our campus, and those who engage in this predatory behavior will be held accountable.

When numerous non-traditional students called our office to say, "This tutorial really isn't about me," we told them they were correct—the tutorial was about us because we all share the obligation and responsibility to hold each other accountable for our individual and collective safety. Thus, another change the tutorial demanded was action against inertia and the collective desire to shrug shoulders, look away, remain silent, or not pay attention at all. We responded to student fatalism—expressed through statements like, "If students want to rape, you can't stop them," and "A twenty-minute video won't stop someone from raping"—by highlighting the obligation each member of our community has to prevent rape.

Distance Technology in Service of Social Transformation

While institutions of higher education have contributed much to what we know about the impacts of sexual violence, universities must also work to create citizens who address what such knowledge demands: social change. We do this by providing transformative educational experiences for all members of our community. As an on online tutorial, PETSA is a catalyst for social and individual transformation blending distance education that engages students psychologically and intellectually by challenging their beliefs and practices relative to their social relationships with face-to-face interaction and opportunities for discourse and social action. Most distance education is considered transformative through its immediate, interactive features that allow individuals within a learning community to connect their ideas with others' to produce new knowledge which is then integrated into the collective thinking.

Our experience suggests that this paradigm, when applied to thousands of students and aimed at changing community norms that alter individuals' notions of what is normal, right and acceptable, may provide even greater opportunity for transformation. We found that by offering critical information to all members of our community simultaneously, we created a collective scaffold upon which subsequent thinking, conversations, assignments, ethics, and above all, *actions* could be built. The information we presented amplified the voices and realities of those calling for change, and through the opportunity for discourse provided a template for dealing with the nuanced,

complicated and life-changing issues of the adult world. As we administered PETSA we were bombarded by calls from students who told us they not only wanted to do something but also wanted our help. Students joined advocacy groups, enrolled in classes on violence, brought to their classroom assignments a focus on sexual violence, conducted social action research, analyzed the impact of PETSA through educational analysis models, interviewed us and their peers, conducted studies, wrote position papers and articles for the newspaper, and produced movies and videos. In short, they got involved in culture change.

While we listened carefully to voices of protest since it was these points of contention against which we measured the success of our change efforts, we found that the majority of the voices we heard were from students who supported what we had done. Many of these voices were from women, now approaching the majority at college campuses across the U.S. Many simply said "thank you." Others said things like, "I was so relieved to see this expressed." And "after completing this tutorial I am grateful. This is what our community needs." Another woman pointed to the realities of dating, "I am so glad we had PETSA [because] there is so much pressure to accept the predominant anti-women view of sexuality and dating." This was one discourse we had hoped for, and it is discourse that needs to be heard, amplified, and normalized. Research suggests that anti-violence attitudes are not acted on when people think their attitudes are in the minority. Women's voices are not the minority; voices calling for healthy respectful relationships are not anomalous. Amplifying these voices shifts the center of discourse and necessitates a realignment of educational priorities. One young woman told us, "This is my life. I deal with these issues every day." Shouldn't we all? Doesn't this reality belong to all of us? Another student, in response to a victim's story in the press wrote, Battling rape is one of the most important fights on college campuses." She is correct. Shifting power, challenging the status quo, redefining acceptable gender relations, dispelling reductionist myths that sustain inequity, and dismantling misogyny in policy and practice are important battles. We as educators and institutions must take this fight on as one of our most important educational battles of the 21st century because it allows us to take an active

role in creating change in this century. Doing so with online technology that allows us to reach all students simultaneously is part of educating for the future.

Footnotes

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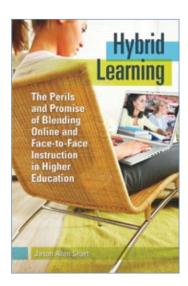
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HYBRID LEARNING: THE PERILS AND PROMISE OF BLENDING ONLINE AND FACE-TO-FACE INSTRUCTION IN HIGHER EDUCATION

Jason Allen Snart

Denver, CO: Praeger, 2010. 179 pages. \$34.95

Reviewed by Marvin Lansverk, Professor of English Literature, MSU Bozeman



Online learning has become so ubiquitous and comprehensive, rarely do individual books address "the plenum" anymore. Instead, in Aristotelian fashion, taxonomies have been created and continue to be generated, sorting the online educational field into smaller units, issues, and aspects capable of being treated in a single volume. Among these differing sets of taxonomies are the degree to which online components are used in a course, from full to partial—from completely replacing face-to-face contact to supplementing the traditional classroom. Jason Allen Snart's new book, Hybrid Learning, addresses this continuum: aiming at the midpoint (actually mid range) in the degree of digital delivery continuum—the type of teaching alternatively referred to as hybrid, or blended. Perhaps counter-intuitively, says Snart, blended courses, though arriving early on the scene, as digital technologies expanded in the 1990's, were not the form that first exploded in use across the country. Rather, it was the fully online courses and programs, and entire universities, that grew first and fastest, thereby garnering the most attention (by educators and investors), and deservedly so. Significant use of hybrid courses has followed a slower developmental trajectory, continuing to grow in use across the country, with different (though related) economic, pedagogical, and technological drivers. And since this growth has occurred inside traditional courses, says Snart, the particular digital issues have often not received enough specific strategic, pedagogical, and policy-making attention, at least not nearly as much attention as fully online courses and programs have. They deserve such attention because the issues, though obviously related, are nevertheless different from those for fully online courses. Inhabiting both worlds of the virtual and the traditional, in various blends, brings additional complexities, not fewer. And since the use of hybrid courses—and institutional interests in increasing their use—continues to grow, such issues must be examined, which is the purpose of Smart's book.

I should admit at the outset that one of my reasons for reading Snart's work was born from disciplinary curiosity. As a professor of eighteenth-century British literature, and a scholar of William Blake, I'd read and admired Snart's earlier work, The Torn Book (2006), on William Blake's marginalia. In addition to wondering what wisdom on hybrid classes a fellow literature scholar would have to offer, I also wondered about the possible connection of Blake to hybrid classes: in his time, Blake had invented a new technology for powerfully blending painting and poetry into his own hybrid, aimed at effectively communicating and teaching his prophetic visions to his audience, using more than traditional methods. Would Blake, I wondered, make an appearance in a book on hybrid

The answer to that question will have to wait. But on a question more central to most readers of this review—whether to read Snart's book at all—the answer is a qualified yes. Though uneven, and often unable to keep inside its own taxonomies, the work does provide a decent overview of the history, policy implications, and pedagogical issues and challenges involved in hybrid teaching, along with some additional practical ideas for teaching blended courses. That list of intents alone should give some indication of the problems with the book, however. It is too ambitious in its attempt to map the field, crossing too quickly from policy-making, to providing case study examples, to offering practical advice, making the book itself a kind of hybrid. Neither fish nor fowl, neither solely an analysis of pedagogical issues nor solely a "how to" book on teaching hybrid classes, it is, ultimately, an odd read. Nevertheless, it does offer much for the many, many of us who now teach such blended courses and for the universities that administer

Snart himself teaches at the College of DuPage, a two year suburban community college in Glen Ellyn, Illinois. This is relevant because he draws

on his experience at his home institution and also takes case studies from hybrid classes there as well, though the issues he raises throughout the book and the data he is most interested in are focused on higher education in general. He begins with some definitions of terms, explaining that he will be using the terms hybrid, blended, mixed mode, and flexible courses interchangeably. Though some institutions have tried to distinguish among them, using blended courses to mean those that meet face-to-face most of the time, and hybrid to designate those that have substantial non-face-toface components, nevertheless, no consensus has yet emerged. Montana State University, for example, has adopted the use of the term blended rather than hybrid. We also additionally designate whether courses are web enhanced, meaning simply that they will use digital technologies but will still meet entirely face-to-face.

Snart's book is organized into seven chapters, with the framing chapters containing some autobiographical material, mostly to help capture an audience, with Snart identifying himself as a "resistant early adopter." He, thus, is someone very interested in new pedagogical opportunities, in Web 2.0, and at home with the incorporation of digital elements into the classroom. But he is also a skeptic at heart.

Chapters Two, Three, and Four, though attending to specific issues with hybrid courses, also find themselves focusing as much on online learning in general, highlighting some of the current drivers of change. Chapter Two focuses on challenges facing higher education. It could be retitled: "A Skeptic Examines Administrative Mandates." Snart reports that many institutions, including his own, have adopted goals and priorities to increase the number of hybrid courses offered, under the general (often unexamined) assumption that simply having more blended courses will help their institutions compete in the national marketplace, grow student enrollment, and also improve their numbers on key performance indicators: including student persistence rates and graduation completion rates. Often, a lack of available classroom space also lies behind the drive for more hybrids. Snart's commentary—a faculty eye view—is to remind readers that developing new hybrid courses (as does developing good fully online courses and materials) takes time, resources, and training. In short, it takes faculty support and money. Furthermore, while online courses add some flexibility in student schedules, hybrid courses, since they still necessarily require

face-to-face meetings, do not necessarily add as much flexibility as institutions assume. Similarly, because hybrid courses still need classrooms, they save some classroom space, but also create scheduling nightmares. And overly hopeful assumptions can sometimes then lead to additional administrative mandates (including even specifying the amounts of hybridity in given classes to make scheduling easier), thereby allowing institutional goals to trump pedagogical design, which Snart argues should be a faculty prerogative. Finally, Snart soberly reminds readers that sometimes student desires for flexibility and convenience—an important driver of the growth in online and hybrid courses—run counter to "traditional pedagogical goals." Convenience, while important, obviously must be balanced with other academic goals, including quality.

Chapter Three continues the skeptic's commentary. While there are many sound pedagogical reasons for developing online and hybrid courses, it turns out that such courses are not a sure-fire way to improve an institution's key performance indicators, especially retention, completion, and graduation rates. Snart cites both local and national data for online courses (data for hybrid courses alone are still harder to come by, and scholars are still debating how best to get good, comparable data) that in spite of increases in flexibility for students, that "coursecompletion and program-retention rates are generally lower in distance-education courses than in their face-to-face counterparts" (34). This creates a dilemma: "How do you respond to increasing demand for online course offerings despite evidence that indicates a much lower student success rate for those who take online courses?" (37). Snart does not proffer an answer, but he does sound a familiar warning, necessarily reissued ever since the beginning of online teaching: distance delivery is not a panacea. Done right, it is not cheap; and done cheaply, it will be of low quality. When completion rates rather than quality begin to dominate, education suffers; note, by the way, that the Montana legislature and the Board of Regents are currently at work on so-called Performance Based Funding proposals that risk exactly that. Too often, Snart feels, online learning and its hybrid sibling have been "inextricably more about the business of education than about the pedagogical integrity of learning and student success " (36). On the bright side, given the recent attention to the importance of creating a sense of academic community and "presence" in online courses (see

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AND TRAINING.

Mary Anne Hansen's short book review, as an example), Snart believes that hybrids will continue to come into their own on this score, in part because they can maximize important elements of real and virtual presence

Chapter Four continues this commentary on online education in general, with an interesting, yet somewhat idiosyncratic comparison of the rise of online diploma mills to the rise of for-profit correspondence schools in the United States in the 1920's. His chief warning here is for reputable institutions to be careful in their pursuit of online flexibility, so as not to begin to look too much like the diploma mills that they often criticize. It is important to maintain mechanisms of quality control, including a highly trained faculty and robust accrediting bodies. In an era when drives for efficiency are leading some institutions to outsource curriculum development and course design, and even grading, and to increasingly use contingent faculty to "deliver" or "manage" courses, rather than teach them, Snart sees connections to abuses during the correspondence school era. Similarly, to avoid using such courses as a cash source, often from students who can least afford it, Snart calls for the enforcement of admission standards, of effective "gatekeeping efforts on the part of institutions, public and for-profits alike...to ensure that only those students who are legitimately likely to succeed are allowed to enroll" (68).

Chapter Five finally turns from issues to examples, from problems with the economics of online learning in general to examples of specific hybrid classes, mostly at Snart's home institution. While a relief in some respects, since the book's focus finally narrows to the minute particulars of actual hybrid classes, the purpose of this section is less to offer specific examples of how hybrid teaching might be accomplished, or even best practices, than it is to illustrate that it can be done well, with satisfied students and teachers. The examples are not really selected to demonstrate a broad range of hybrid course types, nor are they detailed enough to function as a guide or source of ideas for hybrid teaching. They do, however, illustrate some of the parameters and methods for blended courses, from using out-of-class time for quizzes, and in-class time for lectures and other types of interaction. The case studies, however, seem too general and even dated, not addressing, for example, the lively national debates going on about the "flipped" classroom, advocated by our own national award

winning Bozeman High School teacher Paul Andersen, nor TEAL classrooms (Technology Enhance Active Learning classrooms), such as MSU has recently been building. Chapter Six continues with an obvious interest of Snart, in pedagogical opportunities made available through online interaction and even social media. Some of the elements described have long been ensconced in classrooms of all types (online or otherwise), from the use of course management systems such as Blackboard (MSU moved from using WebCT to D2L several years ago) to the use of shared student blogs to using Wikis to aid in writing cooperatively. Snart also addresses some less familiar and even untapped possibilities for aiding digital pedagogies, including social bookmarking-turning the private activities of personal webpage bookmarking into a social activity; MMOGs-massively multiplayer online games, such as Disney's Pirates of the Caribbean; and MMORPGs-massively multiplayer online role-playing games. The latter is of particular interest to Snart. He gives detailed attention to the pedagogical possibilities of one particular example, Second Life: the 3-D immersive online world, citing examples of students using it to send their avatars to remote places for educational exploration, such as Tintern Abbey in Wales. Unfortunately, the recent surge in interest and development of MOOCs—massive open online courses—is too new a phenomena to receive attention in the book, and probably beyond the scope of the book anyway, since they have no hybrid aspects.

Overall, then, Snart's modest book is an interesting read. The subject, by its nature, is itself massive, with crossover elements into pedagogy in general, online delivery, face-to-face teaching, and the complexities of combining them. More encyclopedic works will follow, as will more collections of essays on specific aspects of teaching hybrids. The value of this book, however, lies in its succinct attempt to map the field, to highlight issues, and to continue to sound the skeptic's note, from the point of view of a passionate practitioner. While not the only important voice, it is a position we need to continue to hear from as educational policy, educational technology, and hopefully the educated imagination continues to develop and thrive in this country.

Oh, and I almost forgot: William Blake, alas, does not make an appearance in the book.

MISBEHAVIOR ONLINE IN HIGHER EDUCATION

Laura A. Wankel and Charles Wankel

Bingley, UK: Emerald Publishing Group, 2012

Reviewed by:

Peg Wherry, Director of Online and Distance Learning, Montana State University Bozeman **Margaret Worob,** Online Student Support Manager, Montana State University Bozeman

MISBEHAVIOR ONLINE IN HIGHER EDUCATION is a collection of research, essays, and case studies exploring the new and sometimes troubling behaviors that have emerged as faculty and students have moved academic activity online. Given the rapid pace of developments in cyberspace, any book on the subject is likely to have a relatively short shelf life. In this one, however, a wide range of readers from the professoriate and student affairs will find useful information. Contributors represent institutions of all types and sizes from across the United States, Canada, and Australia; most are faculty, though administrators and a few graduate students contribute.

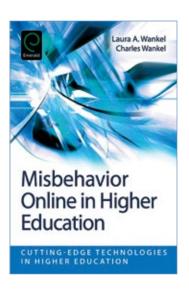
We look first at a set of chapters about online testing. "Misbehavior in Online Testing" by Michael Mays considers the design of online assessments, building a culture of online activities to encourage appropriate behavior, and ways to monitor online assignments. A wide range of sources is consulted but not neatly synthesized under sub-headings, so his text is not easy to navigate. Mays discusses ways to optimize online testing functions to control conditions and randomize questions and responses, makes a case for human proctoring and points out its limitations, identifies both software and hardware available to control and supervise testing, and reminds us that "the same technologies that have enabled cheating have also offered new ways to detect and prevent cheating." (258) The list of references is generous but eclectic rather than representative and skews toward outdated (more from the 1990s than from 2009-2010).

More satisfying, perhaps because more tightly focused, is Paul M. Goldwater and Timothy J. Fogarty's "Academic Integrity and Shortcuts in an Automated Management Accounting Course Management System." This piece recounts the development of an accounting-specific course management system (P4P or Practice for Performance) developed by one of the authors over 20 years. Because the system is narrow in

origin and applied in only one course, one might expect the article to be too specialized to be useful. But it is widely applicable, since the focus is student learning, analyzing a spectrum of student behaviors for either learning or avoiding learning, providing both rationale and tactics for rewarding the former and frustrating the latter. The conclusions are well-earned, concisely argued, and abundantly clear. These authors also remind us that most students don't cheat and that there is a difference between laziness and genuine dishonesty.

Wendy Kraglund-Gauthier and David C. Young explore ways to ensure that the person who receives the credit is the same person who does the academic work in "Will the Real 'John Doe' Stand Up? Verifying the Identity of Online Students." They are not satisfied with human proctoring but also worry (perhaps rightly) about the safety and use of data gathered through technology-based authentication tools such as video recording, keystroke capture, or biometric scans. How are these data to be stored? For how long? Are they then accessible to law enforcement or national security investigators? These are excellent questions, worth the slog through their mostly unremarkable précis of the growth of online education and their rather limited understanding of best practices in human proctoring. They also accept at face value the findings in studies funded by providers of technological monitoring systems. Vendors can provide valuable information—along with their products-but are not exactly disinterested sources for an academic publication.

Since student misconduct is the issue at the crux of this book, it's important to include a discussion and analysis of how the First Amendment applies in the digital age. "Student Conduct in the Digital Age: When Does the First Amendment Protection End and Misconduct Begin?" by Lee Bird et al. explores and analyzes the First Amendment, including its definition and categories of protected and unprotected



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THE SAME
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speech. This chapter is geared more towards university administrators; however, faculty and other university staff could also benefit from the overview of what is and is not protected in the First Amendment. The chapter discusses how current case law is rather murky in this area, as First Amendment cases are still venturing into uncharted territory when it comes to communication via cyberspace. In addition, the chapter provides a case study that demonstrates how university officials should go about taking action when First Amendment issues arise. The takeaway from this chapter is that in the digital age, it's important not to make rash decisions about incidents of misconduct, but rather to review current university policy in light of the First Amendment and, if necessary, consult with university legal counsel before taking action.

Issues of academic entitlement and teacher misbehaviors are investigated in "What Do They Expect? Academically Entitled Students and Perceptions of Teacher Misbehaviors in the Online Classroom" by Heather M. Crandall and her colleagues. Although these issues are nothing new for instructors of face-to-face courses, this chapter focuses on how these issues can crop up in online courses. Not surprisingly, the authors conclude that "academically entitled" (AE) students are apt to judge instructors more harshly and expect quicker turnaround times from instructors. The value in this chapter lies in the discussion of strategies to effectively deal with AE students, such as clear expectations in the syllabus and in discussions. The authors recommend creating a discussion space that is specifically dedicated to teacher-student expectations as a way to appropriately manage expectations. While the authors provide useful suggestions for dealing with AE students and minimizing teacher misbehaviors, the article only focuses on the dimension of instructor response time, and leaves out other issues that might occur when dealing with this difficult student population.

For a more in-depth look into dealing with difficult students, readers should focus their attention on "Flaming the Faculty: Exploring Root Causes, Consequences, and Potential remedies to the Problem of Instructor-Focused Uncivil Online Student Discourse in Higher Education." Susan Wildermuth and Corey B. Davis provide a broad and insightful discussion of instructor-focused uncivil behavior. While the title suggests that the discussion is focused on student incivility solely in online settings, the

analysis is also applicable to instructors of face-to-face courses, especially as more studentinstructor communication has gone digital. This chapter discusses the types of uncivil discourse, explores reasons uncivil discourse occurs, identifies its effects on both students and faculty, and proposes solutions for faculty and administrators to resolve situations of uncivil discourse. The authors also craft an interesting discussion of factors that influence the likelihood of online incivility; however, they argue that the primary student offenders are traditionally aged college students, or "millennials," and do not mention that non-traditionally aged students can also engage in uncivil online behavior. (Curiously, the opening paragraph in this chapter is an excerpt from an actual email by a 32-year-old veteran). Faculty may find the authors' solutions to dealing with uncivil online discourse at the close of the chapter particularly useful. Though the references listed are generally recent and reputable, at least one "study" cited is actually anecdotes from a student journalism course website.

As cyberbullying is a "hot topic" in the popular media today, it is not surprising that several other chapters are devoted to this issue. "Cyberbullying: Perceptions of Bullies and Victims" investigates the issue of cyberbullying specifically among players of massively multiplayer online games (MMOs). While some participants were recruited from college classes for this study, it's not clear how many were non-college students, which further distances this article from the main intent of this book--examining misbehavior online in higher education. The focus of "Cyberbullying? Voices of College Students" is a qualitative research study in which the authors conducted focus groups with college students to get their impressions of cyberbullying perpetrators, victims and audience members. "Cyberbullying in the University Classroom: A Multiplicity of Issues" focuses on cyberbullying in the context of a university classroom at a Canadian university, and the authors provide a real-life example of a case of cyberbullying among members of a class group project. "Cyberbullying: It Doesn't Stop after High School Graduation" presents the results of a survey conducted among traditional aged undergraduate students at Ohio University.

In "Cyber Bullying Among College Students: Evidence from Multiple Domains of College Life," Robin M. Kowalski and her colleagues conducted two studies to explore the issue of cyberbullying among college students; note that most research to date explores cyberbullying among middle and high school students. While both studies examined cyberbullying among primarily traditionally aged college students—the average respondent age was 19—the second study is noteworthy because it explores the issue of cyberbullying amongst college student workers and is particularly troubling in its suggestion that some college student workers could be experiencing cyberbullying in their capacity as university student employees. However, since the authors did not ask where the college students worked, it's difficult to discern how large an issue cyberbullying amongst student employees really is.

Another chapter on cyberbullying is "The Ripple Effect of Positive Change: Raising Awareness of Cyberbullying through a Community-Based Service-Learning Project," by Amy Kenworthy et al. After defining cyberbullying, establishing its prevalence, and worrying about the paucity of effective ways to address it, these authors describe a service learning project they hope will be the "ripple of change" in their title. As a project for a course on negotiation, university students teach primary and secondary school students about cyberbullying and make presentations on their work to yet other university students. The effort was extended even further through student-designed homework for primary and secondary students to do with their parents.

Barbara Ritter's "Say That to My Face: Factors Inherent to the Online Environment that Increase the Likelihood of Harassing and Prejudicial Behavior" is not nearly so useful. To begin with, her concept of the "online environment" is overly general and has very little to do with education (her examples are from corporate workplaces). Also, she treats learning as a behavioral psychologist would rather than as might be assumed in a book about higher education, and she focuses almost exclusively on sexual harassment. In Ritter's view, "the underlying masculine culture found online" creates "a space where men can reassert their greater social status in even a stronger . . . version" than face-to-face (29), a conclusion that seems outdated. Not surprisingly, in the three-page list of works cited, only ten have been published since 2006 and many date from the 1990's. The two from 2011 are Facebook's community standards and her own unpublished manuscript, which is one of the works most frequently cited. Yet this chapter does have value in reminding

faculty of the need to characterize online learning spaces as civil and professional rather than anonymous and untamed.

Ritter's heavy use of her own previous work is doubly interesting, given the arguments made in Tracey Bretag's provocative "Publish or Perish: Ramifications for Online Academic Publishing." She notes that "despite the fact that most university Web sites provide clear warnings to students regarding self-plagiarism, there is no similar framework to ensure that academics do not use their own previously published material inappropriately." (15) The "online" dimension to this issue is seen in the claim that "redundant publication" is easier than ever because of electronic publishing. (14) She outlines research evaluation efforts by governments in the UK and Australia among pressures leading to research misconduct and concludes: "Researchers need to take a politicized stand. We need to reclaim our passion and pride in academic work and not be dictated to by shifting higher education policy." (21-22)

Perhaps the freshest chapters deal with social media. "Facing Off: Facebook and Higher Education" by Debra Bateman and Julie Willems is especially effective. They present several thumbnail case studies on use of Facebooksome that ended well and others that ended badly. They are particularly clear about the differences between Learning Management Systems (such as Desire2Learn and Moodle) and social media, which they do not find to be interchangeable. Social presence, so highly desired in online teaching and learning, is not the same as social interaction, which can be distracting or worse. The other Facebook study is a solid piece of research but has less to do with education, however much it treats behavior. "Picture Perfect? College Students' Experiences and Attitudes Regarding Their Photo-related Behaviors on Facebook" by Angela Paradise capably combines social theory, studies of Facebook usage, and a survey of college students about their use of photos. It is likely to be of greatest interest to scholars of new media and social scientists but also rewarding for those curious about the current vagaries of youth. "Establishing Guidelines for the Use of Social Media in Higher Education" by Andrew Lenartz may be the most administratively oriented chapter, with its orderly treatment of policies or guidelines for an institution's use of social media. He sets out the categories of policies needed (acceptable use, compliance, objectionable content, etc.) and cites

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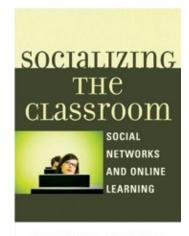
examples from schools ranging from Cornell College to the University of Texas.

The chapters in this book, then, are suggestive, even stimulating, though it would be a mistake to think of the volume as comprehensive. Chapters are not grouped in sections focusing on a common theme, and there seems to have been no effort toward balanced coverage. Mental health issues and students of concern, spamming, using university computing resources for commercial and other inappropriate uses—to name a few problems that we have encountered in our own daily work—are not addressed. Since the quality of the prose is rather uneven, it seems mere

linguistic convention to refer to the book as having been edited. There are many instances of imperfect word processing, with words omitted or parts of sentences pasted together without regard for normal English syntax.

Nonetheless, Misbehavior Online in Higher Education is a good introduction to vexing new issues, and the references cited may lead readers into the already extensive scholarship of online teaching and learning. Every campus should have a copy or two, and nearly every reader will find valuable insights and useful information. For individual professors, however, this is a better book to borrow than to own.

BOOK NOTICE



susan B. Barnes

SOCIALIZING THE CLASSROOM: SOCIAL NETWORKS AND ONLINE LEARNING

Susan B. Barnes

Lanham, MD: Lexington Books, 2012. 228 pages. \$60.00

Mary Anne Hansen, Professor of Library Science, MSU Bozeman

In Socializing the Classroom: Social Networks AND ONLINE LEARNING, Susan B. Barnes and her team of scholars at the Rochester Institute of Technology's Lab for Social Computing provide a theoretical and research-based context for utilizing the social media model in the academic setting. Barnes and her research team are not necessarily advocating the integration of social media into all formal learning environments, but they do argue that integrating what we know about the formation of online communities among digital natives into course management systems can help provide a context and conduit for student learning. Barnes's team has found that students may relate and even compare formal online learning environments to their social media experiences through such platforms as Facebook and Twitter, but students may not necessarily want these types of social media applications in their educational space. They cite research which suggests that today's students learn differently by virtue of growing up with the internet pervading so much of their lives, especially their social lives. Thus the virtual social experiences which students bring to the educational setting impact their expectations for their formal learning experiences.

Students expect course management systems to look and function more like the social media applications that they're accustomed to. However, students do not automatically form learning communities in online courses as easily as they may form social communities in various social media platforms. It is the instructor's responsibility to create opportunities for students to connect in online courses by structuring assignments and discussions, even assigning groups among students to facilitate the formation of learning communities within the course. The authors place the importance of forming online learning communities in the context of constructivist learning theory, a learner-centered model which encourages instructors to provide opportunities for learning in which students can create meaning for themselves out of the educational content. This work provides an extensive foundation for understanding the evolution of social networking and its potential usefulness for helping instructors both understand where students are and also be where students are in the online environment.

individualized for every student and that provides them with extensive practice and immediate feedback" (Swan, 2003, p. 3). Many educational theorists (e.g., Mayer, 2008; Schunk, 2012) maintain that in order to increase student learning, learners need scaffolding in the form of timely corrective feedback. This insures that students can adjust their skills or understanding while they are learning. From the instructor's viewpoint, online discussions, because they can be read and reviewed asynchronously, afford a greater opportunity to assess student learning and thinking and to provide prompt feedback regarding students' ideas than can be done in a traditional classroom. Thoughtfully constructed online discussions can facilitate an exchange of ideas, applications, and new insights among students regarding their understanding of the content, which maximizes opportunities for formative assessment of student knowledge. Where else can you read each student's thoughts, or gauge their level of understanding in such a transparent manner? Discussions provide the opportunity for the instructor to scaffold student understanding through questions (such as asking to clarify their thoughts on a statement or topic); feedback (such as telling a student they are correct, or how they need to adjust their thinking or understanding); and give instruction or clarification to the group about the direction the conversation is going. Instructors can provide much more focused and individualized feedback on students' thinking and developing understanding both during and in feedback on discussions online. In addition, online quizzes can be set up to give immediate feedback to students about their own level of understanding. By noting where students seem unclear or where they lack important knowledge and understanding, the instructor can readdress these points with the students and can use this feedback reflectively in planning the course for subsequent semesters.

Our final point about how online discussions support student learning takes us back to Prensky's argument (Prensky, 2010) that students want to see how learning connects meaningfully to their own experiences and interests. In a traditional class students typically take notes only when the instructor speaks. The ideas and experiential

perspectives contributed by peers are often disregarded. In an online discussion, we hear much more about students' own experiences as they relate to the focus of the course. In really good discussions, students learn much more about the content because they can see how that content relates not only to their own thinking and experience but to the experiences introduced from a diverse group of peers. In a very real sense, online learning emphasizes a more collaborative learning relationship between students and their peers as well as between students and instructors.

Reinvigorating Teaching

We have outlined how we see online education contributing to significant gains in student learning but we see an additional strength of online education in the ways it may encourage university faculty to explore new approaches to reinvigorate their own teaching. In our own work with online education, we have found that teaching becomes more transparent. The instructor can see the structure of a course in a way that is different and perhaps more informative than is the case with a traditional course. Since the entire course is "visible," meaning the instructor has immediate access to everything communicated to students and to their responses to what is communicated, the instructor can better determine the overall effectiveness of a course as well as note places where changes need to be made. Online teaching promotes a more reflective stance toward one's own teaching. For the instructor who finds the unique challenges of online teaching worth the investment, the payoff can be increasing expertise in teaching effectively online. What instructors learn from teaching online can then inform their thinking about their teaching in the traditional classroom as well.

Our position is that we should stop trying to decide which is better — online or traditional approaches to teaching and learning. We believe that higher education benefits from the synergy and increased opportunities for learning from a collaborative relationship between the two modalities. We are advocates for the contributions that online education makes to higher education. At the same time, our own experiences as faculty members who teach both online and

in the traditional classroom have highlighted the challenges that online education introduces to our endeavors.

Challenges of Online Education The strengths of online education discussed in the previous section are rendered entirely moot if instructors are unwilling or unable to capitalize on the possibilities online teaching offers. Clearly, as mentioned earlier, there are obstacles to overcome. Our experience tells us that the most significant hurdles are: the lack of faculty acceptance of online education, the need for time and training for faculty to learn best practices in teaching online, and the need for intuitive web-based learning platforms that allow us to capitalize on the strengths of online education. While certainly not an exhaustive list, we feel that if these three interconnected issues can be addressed, the potential of

online education can be realized. According to the Changing Course report (Allen & Seaman, 2013), faculty acceptance of online education over the past nine years has actually decreased in the estimation of chief academic officers (p. 27). While acknowledging that faculty acceptance is critical for the success of online education (Institute for Higher Education Policy, 2000), this report offers little that we did not already know: teaching online is challenging, at least if it is done well; it takes time, effort, and expertise that many of us do not have; and the incentives, if they exist, do not always appear to match the expenditure of time and effort, particularly if faculty do not see the benefit. And this appears to us to be the crux of the issue: are we sacrificing quality for expediency when it comes to online education?

One of the barriers to faculty acceptance of online education is the impersonal nature of technology, at least in its current form. The personal connection that perhaps drew many of us into teaching established through eye contact, body language, and informal conversations is replaced in an online environment by the subtle nuances of language. Because it is not uncommon to teach students for an entire semester without ever meeting them in person we must rethink the very nature of the instructor/student relationship. What it is possible to "know" about a student, both academically and

ONLINE EDUCATION. continued

personally, is different when we interact with that student online exclusively than when we interact face-to-face. Also, many of the intangible measures of success in a traditional education, sometimes captured in a student course evaluation, but often represented by a feeling of satisfaction that a class "went well" or that students "seemed engaged," are much more difficult to capture in an online environment, at least in the same way. The power of online education is that it should encourage us to really look at more objective measures of student learning as the goldstandard by which we measure success, whether we are teaching students in a campus class or online.

But can we trust that the students on the other side of the computer are who they claim to be? A valid concern of many faculty is that it is too easy for students to fake their identity or receive unwarranted assistance from others in an online class. While academic dishonesty is certainly not limited to online education, the lack of face-to-face accountability makes many wonder if the potential benefits of online education are worth the risk. Some of these concerns are likely to be addressed by new technologies. For example, technology is available to enable exams to be proctored remotely, work submitted can be entered into software to check for plagiarism, and students can even be identified by software that tracks their unique typing rhythm and other characteristics. There are also low-tech alternatives, such as requiring students to attend proctored exams on campus or at designated testing facilities. We believe that concerns regarding student accountability are well founded and need to be addressed if university faculty are going to embrace online education, but options do already exist that can address these concerns.

If online education is to be successful, faculty need to be given the time, resources, training, and incentives to do it well. We need to understand that the online teaching environment is something completely different from the traditional classroom and, accordingly, the skills needed to be successful in it are different. The flipside of the lack of student accountability is the lack of faculty accountability in online education. A common lament of students is that they do

not experience the faculty presence in an online class in the same way that they do in a traditional class. The most likely cause of this perception is a lack of engagement on the part of the professor in the course, particularly in discussions. The natural tendency in teaching, particularly when we are being pulled in multiple directions, is to fall back on what is comfortable, regardless if what we have been doing is effective. Online teaching requires us to engage with students in a way that takes time and training to do well and faculty need opportunities and incentives to learn new methods that are made possible by these new technologies.

The last barrier is simply the availability of technology to effectively meet our curricular goals. Addressing this barrier entails both a long and short view of the future of educational technology. Looking at the long view, the general trend in educational technology has been towards increased functionality and more intuitive systems that require less training to learn. Also, increased bandwidth and cloud storage have given us access to increasingly larger amounts of data at higher rates of speed. The implication of these changes is that online education is likely to become increasingly easier to master, less impersonal, and—ironically—more similar to traditional education, particularly in terms of the modes of communication. For example, the current privileging of written communication in online education was originally a function of the limitations of the technology; today the increasing popularity of videoconferencing software suggests that we may soon be able to replace the personal in online learning. As these technologies improve, online education is likely to become less anonymous and more intuitive, and faculty perceptions are likely to change accordingly.

In the short-term, any online platform takes time and effort to learn. Even for those of us who are experienced at teaching online there are always new skills to learn, new methods to master—and not all online platforms are created equally. Faculty need online platforms, or course management systems, that are intuitive to learn, easy to maintain, and that allow us to really take advantage of the strengths mentioned in the previous section that make online education

desirable--and they need them now. As with most things in life, you get what you pay for, and course management systems are no different. If faculty are given an inferior product with which to work, inferior student outcomes--and student evaluations--will most likely result. We believe that if online education is to be taken seriously then investments in technology and support for faculty are likely to yield the greatest results.

A growing body of research suggests that when online classes are held up against traditional classes learning outcomes in online classes can match, and in some situations surpass, those achieved in traditional classes (Dell, Low, & Wilker, 2010; Driscoll, Jicha, Hunt, Tichavsky, & Thompson, 2012; Wagner, Garippo, & Lovaas, 2011). However, we must recognize that just because online education provides us with potentially powerful tools for reimagining how we teach, it is not appropriate for all courses. The key to the successful integration of technology is ensuring that the technology supports one's curricular goals. Too often it seems that technology is applied to a problem without examining if the problem is a lack of technology. What we should be doing instead is examining our current teaching practices and curricula and then ask how technology can improve them. To overcome the barriers discussed in this section and to ensure that we are not sacrificing quality for expediency, we need to think about teaching and learning online differently.

Implications for Higher Education

The advent of MOOCs (mass open online courses) has brought the initial hope that online education would increase faculty efficiency back to the forefront of educational debate. Currently, more than a million people are taking free online courses from such premier institutions as Harvard, Stanford, and MIT (Carr, 2012). Equipped with just a computer and internet access, a person anywhere in the world can study with some of the country's most influential and distinguished professors. The story behind one of the first MOOCs offered at Stanford is instructive. Sebastian Thrun, a Stanford professor of robotics, had taught Introduction to Artificial Intelligence for some years, usually averaging several hundred undergraduate students a year. When he decided to offer the course online to anyone who wanted to take the course, he and his co-instructor, Peter Norvig, anticipated they might attract as many as 10,000 students. When the course opened for enrollment in October, 2011 they were shocked to find that 160,000 students had registered. Even the fact that only about 14% of those who initially enrolled finished the course was not discouraging since this was still many times more students than was typical enrollment for the course (Carr, 2012).

MOOCs such as the one developed by Thrun and Norvig have been remarkably successful at attracting huge numbers of students. Given the estimate that the average cost of a bachelor's degree is currently around \$100,000 (Carr, 2012), it is easy to see the appeal. A bachelor's degree at a state institution in a state like Montana still runs upwards of \$50,000 for a student living on campus. It is somewhat ironic that the dream held by university administrators that online course and program offerings would attract students to their campuses from rural areas while at the same time increasing faculty efficiency may be accurate, but students may choose to cut costs by joining the ever growing number who want to learn from the most prestigious faculty and institutions via MOOCs.

It seems unlikely that MOOCs will align with the mission statements or strategic plans of most state institutions, in large part because they do not appear to be financially sustainable. But placing MOOCs on one end of the continuum, with traditional campus-based classes at the other end, developments in online education raise interesting and important questions about our work as educators. The trend over the past decade in demanding greater accountability from colleges and universities by focusing on student learning outcomes rather than instructor and institutional inputs is challenged by MOOCs where there are no grades or degrees to signify a student has mastered the material taught in a course. A bill recently introduced in the California Senate would require public institutions in the state to award credit for online courses, including those from other institutions and private vendors, for students unable to

register for oversubscribed courses (Lewin, 2013). The California bill suggests that state legislatures may take a hand in promoting the legitimacy of online education as a viable means of improving retention and graduation rates. Online education, then, has the potential to shift the determination of mastery from the instructor teaching the course to the student who must decide whether he or she has developed the knowledge and skills necessary for that particular student's needs and interests.

Higher education is at a crossroads. In January, 2013, Moody's Investors Service, a credit rating agency, issued a negative outlook on revenue sources across the board for higher education, anticipating increasingly challenging funding problems as a result of the depressed economy, decreasing revenue sources, rising student debt and default rates, increased demands for regulation, and institutional challenges in leadership and governance (Troop, 2013). The National Center for Education Statistics (2013) projects that the number of high school graduates in the Southern and Western parts of the US will increase slowly through 2021-22 compared to 2008-09 numbers but graduates in the Northeast and Midwest will decrease. While this may be good news for institutions in the West, the overall picture for higher education is less robust than has been the case in past years.

There are two ways university faculty can respond to the developing crisis in higher education: we can continue with business as usual, tinkering with the traditional model to increase both revenues and students and seeing online education as necessary to that process but not intrinsically valuable in itself, or we can see the pressures for fundamental changes in higher education as an opportunity to step outside of our preconceived notions of what higher education should look like, how we define effective teaching, and how much responsibility we are willing to share with our students. We believe that the long-term health of higher education, especially in states like Montana facing ever-shrinking budgets, requires that we embrace the disruptive qualities of online education as we re-envision teaching and learning for 21st century learners.

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