Academic Commons

"New Media Technologies and the Scholarship of Teaching and Learning"

January 2009 issue of Filtered: The Academic Commons Magazine

Edited by Randy Bass with Bret Eynon and an editorial group from Georgetown University's Center for New Designs in Learning & Scholarship (Eddie Maloney, Susannah McGowan, John Rakestraw and Theresa Schlafly)

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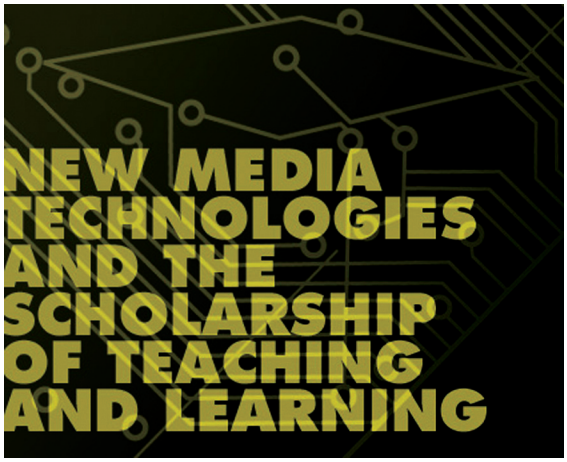

Reprinted from the January 2009 issue of Academic Commons on "New Media Technologies and the Scholarship of Teaching and Learning," edited by Randy Bass with Bret Eynon and an editorial group from the Center for New Designs in Learning and Scholarship (CNDLS) at Georgetown University– Eddie Maloney, Susannah McGowan, John Rakestraw and Theresa Schlafly
http://www.academiccommons.org/issue/january-2009

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From Knowledgable to Knowledge-able: *Learning in New Media Environments*

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Knowledge-able

Most university classrooms have gone through a massive transformation in the past ten years. I'm not talking about the numerous initiatives for multiple plasma screens, moveable chairs, round tables, or digital whiteboards. The change is visually more subtle, yet potentially much more transformative. As I recently wrote in a Britannica Online Forum:

> *There is something in the air, and it is nothing less than the digital artifacts of over one billion people and computers networked together collectively producing over 2,000 gigabytes of new information per second. While most of our classrooms were built under the assumption that information is scarce and hard to find, nearly the entire body of human knowledge now flows through and around these rooms in one form or another, ready to be accessed by laptops, cellphones, and iPods. Classrooms built to re-enforce the top-down authoritative knowledge of the teacher are now enveloped by a cloud of ubiquitous digital information where knowledge is made, not found, and authority is continuously negotiated through discussion and participation.*[1]

This new media environment can be enormously disruptive to our current teaching methods and philosophies. As we increasingly move toward an environment of instant and infinite information, it becomes less important for students to know, memorize, or recall information, and more important for them to be able to find, sort, analyze, share, discuss, critique, and create information. They need to move from being simply knowledgeable to being knowledge-*able*.

The sheer quantity of information now permeating our environment is astounding, but more importantly, networked digital information is also qualitatively different than information in other forms. It has the potential to be created, managed, read, critiqued, and organized very differently than information on paper and to take forms that we have not yet even imagined. To understand the true potentials of this "information revolution" on higher education, we need to look beyond the framework of "information." For at the base of this "information revolution" are new ways of relating to one another, new forms of discourse, new ways of interacting, new kinds of groups, and new ways of sharing, trading, and collaborating. Wikis, blogs, tagging, social networking and other developments that fall under the "Web 2.0" buzz are especially promising in this regard because they are inspired by a spirit of interactivity, participation, and collaboration. It is this "spirit" of Web 2.0 which is important to education. The technology is secondary. This is a social revolution, not a technological one, and its most revolutionary aspect may be the ways in which it empowers us to rethink education and the teacher-student relationship in an almost limitless variety of ways.

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1 Michael Wesch, "A Vision of Students Today (and what Teachers Must Do)," *Encyclopedia Britannica* blog, Oct. 21, 2008, http://www.britannica.com/blogs/2008/10/a-vision-of-students-today-what-teachers-must-do/

Physical, Social, and Cognitive Structures Working Against Us

But there are many structures working against us. Our physical structures were built prior to an age of infinite information, our social structures formed to serve different purposes than those needed now, and the cognitive structures we have developed along the way now struggle to grapple with the emerging possibilities.

The physical structures are easiest to see, and are on prominent display in any large "state of the art" classroom. Rows of fixed chairs often face a stage or podium housing a computer from which the professor controls at least 786,432 points of light on a massive screen. Stadium seating, sound-absorbing panels and other acoustic technologies are designed to draw maximum attention to the professor at the front of the room. The "message" of this environment is that to learn is to acquire information, that information is scarce and hard to find (that's why you have to come to this room to get it), that you should trust authority for good information, and that good information is beyond discussion (that's why the chairs don't move or turn toward one another). In short, it tells students to trust authority and follow along.

This is a message that very few faculty could agree with, and in fact some may use the room to launch spirited attacks against it. But the content of such talks are overshadowed by the ongoing hour-to-hour and day-to-day practice of sitting and listening to authority for information and then regurgitating that information on exams.

Many faculty may hope to subvert the system, but a variety of social structures work against them. Radical experiments in teaching carry no guarantees and even fewer rewards in most tenure and promotion systems, even if they are successful. In many cases faculty are required to assess their students in a standardized way to fulfill requirements for the curriculum. Nothing is easier to assess than information recall on multiple-choice exams, and the concise and "objective" numbers satisfy committee members busy with their own teaching and research.

Even in situations in which a spirit of exploration and freedom exist, where faculty are free to experiment to work beyond physical and social constraints, our cognitive habits often get in the way. Marshall McLuhan called it "the rear-view mirror effect," noting that "We see the world through a rear-view mirror. We march backwards into the future."[2]

Most of our assumptions about information are based on characteristics of information on paper. On paper we thought of information as a "thing" with a material form, and we created elaborate hierarchies to classify each piece of information in its own logical place. But as David Weinberger and Clay Shirky have demonstrated, networked digital information is fundamentally different than information on paper.[3] And each digital innovation seems to shake us free from yet another assumption we once took for granted.

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2 Marshall McLuhan, The Medium is the Massage (New York: Random House, 1967).

3 See Clay Shirky, "Ontology is Overrated: Categories, Links, and Tags," http://www.shirky.com/writings/ontology_overrated.html and David Weinberger, Everything is Miscellaneous: The Power of the New Digital Disorder (New York: Times Books, 2007).

Even something as simple as the hyperlink taught us that information can be in more than one place at one time, challenging our traditional space-time based notions of information as a "thing" that has to be "in a place." Google began harnessing the links and revolutionized our research with powerful machine-assisted searching.

Blogging came along and taught us that anybody can be a creator of information. Suddenly anybody can create a blog in a matter of seconds. And people have responded. Technorati now reports that there are over 133 million blogs, almost 133 million more than there were just five years ago. YouTube and other video sharing sites have sparked similar widespread participation in the production of video. Over 10,000 hours of video are uploaded to the web everyday. In the past six months more material has been uploaded to YouTube than all of the content ever aired on major network television. While such media beg for participation, our lecture halls are still sending the message, "follow along."

Wikipedia has taught us yet another lesson, that a networked information environment allows people to work together in new ways to create information that can rival (and even surpass) the content of experts by almost any measure. The message of Wikipedia is not "trust authority" but "explore authority." Authorized information is not beyond discussion on Wikipedia, information is authorized through discussion, and this discussion is available for the world to see and even participate in. This culture of discussion and participation is now available on any website with the emerging "second layer" of the web through applications like Diigo which allow you to add notes and tags to any website anywhere.

And as we note and tag these sites, we are also collectively organizing them, so that the notion that this new media environment is too big and disorganized for anybody to find anything worthwhile and relevant is simply not the case. Our old assumption that information is hard to find, is trumped by the realization that if we set up our hyper-personalized digital network effectively, information can find us. For example, I have set up my own Netvibes portal so that the moment anybody anywhere tags something with certain keywords I am interested in I will immediately receive a link to the item. It is like continuously working with thousands of research associates around the world. Taken together, this new media environment demonstrates to us that the idea of learning as acquiring information is no longer a message we can afford to send to our students, and that we need to start redesigning our learning environments to address, leverage, and harness the new media environment now permeating our classrooms.

A Crisis of Significance

Unfortunately, many teachers only see the disruptive possibilities of these technologies when they find students Facebooking, texting, IMing, or shopping during class. Though many blame the technology, these activities are just new ways for students to tune out, part of the much bigger problem I have called "the crisis of significance," the fact that many students are now struggling to find meaning and significance in their education.[4]

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4 Michael Wesch, "Anti-Teaching: Confronting the Crisis of Significance," *Education Canada* (Spring 2008), http://www.cea-ace.ca/media/en/AntiTeaching_Spring08.pdf

Nothing good will come of these technologies if we do not first confront the crisis of significance and bring relevance back into education. In some ways these technologies act as magnifiers. If we fail to address the crisis of significance, the technologies will only magnify the problem by allowing students to tune out more easily and completely. With total and constant access to their entire network of friends, we might as well be walking into the food court in the student union and trying to hold their attention. On the other hand, if we work with students to find and address problems that are real and significant to them, they can then leverage the networked information environment in ways that will help them achieve the "knowledge-ability" we hope for them.

We have had our *why's, how's*, and *what's* upside-down, focusing too much on *what* should be learned, then *how*, and often forgetting the *why* altogether. In a world of nearly infinite information, we must first address *why,* facilitate *how,* and let the *what* generate naturally from there. As infinite information shifts us away from a narrow focus on information, we begin to recognize the importance of the *form* of learning over the *content* of learning. It isn't that content is not important; it is simply that it must not take precedence over form. But even as we shift our focus to the "how" of learning, there is still the question of "what" is to be learned. After all, our courses have to be about something. Usually our courses are arranged around "subjects." Postman and Weingartner note that the notion of "subjects" has the unwelcome effect of teaching our students that "English is not History and History is not Science and Science is not Art . . . and a subject is something you 'take' and, when you have taken it, you have 'had' it." Always aware of the hidden metaphors underlying our most basic assumptions, they suggest calling this "the Vaccination Theory of Education" as students are led to believe that once they have "had" a subject they are immune to it and need not take it again.[5]

Not Subjects but Subjectivities

As an alternative, I like to think that we are not teaching subjects but subjectivities: ways of approaching, understanding, and interacting with the world. Subjectivities cannot be taught. They involve an introspective intellectual throw-down in the minds of students. Learning a new subjectivity is often painful because it almost always involves what psychologist Thomas Szasz referred to as "an injury to one's self-esteem."[6] You have to unlearn perspectives that may have become central to your sense of self.

To illustrate what I mean by subjectivities over subjects, I have created a list of subjectivities that I am trying to help students attain while learning the "subject" of anthropology:

- Our worldview is not natural and unquestionable, but culturally and historically specific.

- We are globally interconnected in ways we often do not realize.

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5 Neil Postman and Charles Weingartner, *Teaching as a Subversive Activity* (Delacorte Press, 1969), 21.

6 Thomas Szasz, *The Second* Sin (Routledge, 1974), 18.

- Different aspects of our lives and culture are connected and affect one another deeply.
- Our knowledge is always incomplete and open to revision.
- We are the creators of our world.
- Participation in the world is not a choice, only how we participate is our choice.

Even a quick scan of these subjectivities will reveal that they can only be learned, explored, and adopted through practice. We can't "teach" them. We can only create environments in which the practices and perspectives are nourished, encouraged, or inspired (and therefore continually practiced).

My own experiments in this regard led to the creation the World Simulation, now the centerpiece of my Introduction to Cultural Anthropology course at Kansas State University. As the name implies, the world simulation is an activity in which we try to simulate the world. Of course, in order to simulate the world, we need to know everything we can about it. So while the course is set up much like a typical cultural anthropology course, moving through the same readings and topics, all of these learnings are ultimately focused around one big question, "How does the world work?"

Students are co-creators of every aspect of the simulation, and are asked to harness and leverage the new media environment to find information, theories, and tools we can use to answer our big question. Each student has a specific role and expertise to develop. A world map is superimposed on the class and each student is asked to become an expert on a specific aspect of the region in which they find themselves. Using this knowledge, they work in 15-20 small groups to create realistic cultures, step-by-step, as we go through each aspect of culture in class. This allows them to apply the knowledge they learn in the course and to recognize the ways different aspects of culture--economic, social, political, and religious practices and institutions--are integrated in a cultural system.

In the final weeks of the course we explore how different cultures around the world are interconnected and how they relate to one another. Students continue to harness and leverage the new media environment to learn more about these interconnections, and use the wiki to work together to create the "rules" for our simulation. They face the daunting task of creating a way to simulate colonization, revolution, the emergence of a global economy, war and diplomacy, and environmental challenges. Along the way, they are exploring some of the most important challenges now facing humanity.

The World Simulation itself only takes 75-100 minutes and moves through 650 metaphorical years, 1450-2100. It is recorded by students on twenty digital video cameras and edited into one final "world history" video using clips from real world history to illustrate the correspondences. We watch the video together in the final weeks of the class, using it as a discussion starter for contemplating our world and our role in its future. By then it seems as if we have the whole world right before our eyes in one single classroom - profound cultural differences, profound economic differences, profound challenges for the future, and one humanity. We find ourselves not just as co-creators of a simulation, but as co-creators of the world itself, and the future is up to us.[7]

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7 The World Simulation video can be viewed at http://www.academiccommons.org/commons/essay/knowledgable-knowledge-able

Managing a learning environment such as this poses its own unique challenges, but there is one simple technique, which makes everything else fall into place: *love and respect your students and they will love and respect you back.* With the underlying feeling of trust and respect this provides, students quickly realize the importance of their role as co-creators of the learning environment and they begin to take responsibility for their own education.

New Models of Assessment for New Media Environments: The Next Frontier.

All of this vexes traditional criteria for assessment and grades. This is the next frontier as we try to transform our learning environments. When I speak frankly with professors all over the world, I find that, like me, they often find themselves jury-rigging old assessment tools to serve the new needs brought into focus by a world of infinite information. Content is no longer king, but many of our tools have been habitually used to measure content recall. For example, I have often found myself writing content-based multiple-choice questions in a way that I hope will indicate that the student has mastered a new subjectivity or perspective. Of course, the results are not satisfactory. More importantly, these questions ask students to waste great amounts of mental energy memorizing content instead of exercising a new perspective in the pursuit of real and relevant questions.

Of course, multiple-choice questions are an easy target for criticism, but even more sophisticated measures of cognitive development may miss the point. When you watch somebody who is truly "in it," somebody who has totally given themselves over to the learning process, or if you simply imagine those moments in which you were "in it" yourself, you immediately recognize that learning expands far beyond the mere cognitive dimension. Many of these dimensions were mentioned in the issue precis, "such as emotional and affective dimensions, capacities for risk-taking and uncertainty, creativity and invention," and the list goes on. How will we assess these? I do not have the answers, but a renewed and spirited dedication to the creation of authentic learning environments that leverage the new media environment demands that we address it.

The new media environment provides new opportunities for us to create a community of learners with our students seeking important and meaningful questions. Questions of the very best kind abound, and we become students again, pursuing questions we might have never imagined, joyfully learning right along with the others. In the best case scenario the students will leave the course, not with answers, but with more questions, and even more importantly, the capacity to ask still more questions generated from their continual pursuit and practice of the subjectivities we hope to inspire. This is what I have called elsewhere, "anti-teaching," in which the focus is not on providing answers to be memorized, but on creating a learning environment more conducive to producing the types of questions that ask students to challenge their taken-for-granted assumptions and see their own underlying biases.

The beauty of the current moment is that new media has thrown all of us as educators into just this kind of question-asking, bias-busting, assumption-exposing environment. There are no easy answers, but we can at least be thankful for the questions that drive us on.