

Interdisciplinary Humanities

Publication of the Humanities Education and Research Association

Interdisciplinary Humanities
Volume 31.1 Spring 2014



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Published by the Humanities Education and Research Association (HERA) at The University of Texas at El Paso. Individual Membership in HERA includes a one-year subscription to *Interdisciplinary Humanities* (spring, summer, and fall issues) and costs \$120. Libraries and other institutions may obtain one-year subscriptions to *Interdisciplinary Humanities* for \$150. Membership forms may be found at the back of this journal and at http://www.h-e-r-a.org/hera_join.htm.

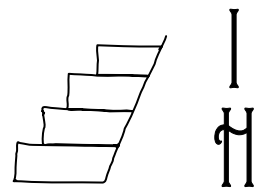
The editorial offices of *Interdisciplinary Humanities* are located at The University of Texas at El Paso. Contributors should carefully consult the Editorial Policy Guidelines (see back pages of this issue). Editorial decisions for publications are normally made within four months of the submission deadline. Send an electronic copy of essays for publication consideration to co-editors Stephen Husarik, shusarik@uafortsmith.edu, and Lee Ann Elliott Westman, lewestman@utep.edu.

Interdisciplinary Humanities is indexed by ERIC ISSN 1056-6139
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Front Cover Image: A word cloud made from the text of the articles in this issue, generated by Mary Ann Koory using Wordle (www.wordle.net). Word clouds give greater prominence to words that appear more frequently in the source text. Not surprisingly, but still gratifying to the editors, the word "student" appeared most often in this issue devoted to online pedagogy.

This issue of *Interdisciplinary Humanities* is partially underwritten by The Friends of the Humanities at the University of Louisiana at Lafayette and the Humanities Program at The University of Texas at El Paso.

Online Learning in the Humanities



Contents

Editor's Introduction

Stephen Husarik *University of Arkansas—Fort Smith* 3

E-Learning and WebCT: Beginnings, Revelations, False Promises and Unfounded Fears

Murray T. Goldberg *Founder of WebCT* 8

Doing Humanities Scholarship Online: A Case Study for the Literary Digital Humanities Writing Course

Amanda Starling Gould *Duke University* 23

Active Learning and the Use of Technology, or How One Online Popular Culture Course Changed How We Teach Everything Else

DeAnna Varela *University of Texas at El Paso*
Lee Ann Westman *University of Texas at El Paso* 42

What war looks like: students present moments of historical crisis using primary sources and digital textbooks. Be careful what you ask for.

Laura Moorhead *Stanford University* 54

Beyond the On-Campus Humanities Learning Experience: A Case Study in Utilizing Assessment Tools in an Online Dance Studies Course

Michelle T. Summers *University of California—Riverside*
Kimberly Downing Robinson *University of Arkansas—Fort Smith*
Rebecca J. Timmons *University of Arkansas—Fort Smith* 72

Teaching Machines and the Humanities: Paragraphs on Critical Media Pedagogy

Dan Leopard *St. Mary's College of California* 81

How Architectural Students Learn via Mobile Technology

Michael Brazley *Southern Illinois University Carbondale* 90

A Virtual Grand Tour of Europe: Bringing Students, Faculty, Donors and Local Citizens Together in an International Humanities Experience with Trajan's Column		
Stephen Husarik	<i>University of Arkansas—Fort Smith</i>	105
Book Review: <i>Introduction to Controlled Vocabularies: Terminology for Art, Architecture, and Other Cultural Works, Updated Edition</i> by Patricia Harping		
Natalie E. Phillips	<i>Ball State University</i>	116
Book Review: <i>Plagues in World History</i> by John Aberth		
Thomas J. Brinkerhoff	<i>University of Pennsylvania</i>	120
Notes on Contributors		124
Editorial Policies		128
Membership Application		129

Editor's Introduction

Stephen Husarik
University of Arkansas—Fort Smith

Many years ago, I served as the newsletter editor for a national humanities organization. The society was not able to accept web delivery of its newsletter at the time, so I printed out a typeset copy on my desktop printer and mailed that to the president, who then duplicated it and mailed out a final copy to all members of the organization.

Serving as a newsletter editor for an organization is one of the most difficult and thankless tasks I know. It is difficult to extract information from organization members and sometimes one must almost beg for information simply to fill up column inches. Thus, in a 1992 issue I decided to fill up empty column space with an editorial expressing my own opinion about the future relationship between computer delivery and the humanities—with observations on how the two worlds would eventually merge.

At the annual conference luncheon that year, I sat at a table with an elderly professor who got particularly upset when I told him that I had written the article. His reaction was so violent that I had to pick up my plates and carry them to another table to avoid his embarrassing display of anger. It was utterly confounding to me that someone could get so angry about the potential use of a new tool for the field of humanities, or feel somehow threatened by the shift from printed copy to electronic delivery. Even more so, it seemed odd to me that a professor living in America not long after we had landed a man on the moon—surely one of the greatest achievements in the history of man—could not recognize the importance of digital electronics in the history of communication and criticism.

I decided that I would have to hide my interest in the world of electronically delivered humanities because people involved in studies at the time were so entrenched in content areas that they could not appreciate that this new medium would enhance their research and classroom experiences. Clearly, we were on the cusp of a great change in the history of writing similar

to the one that led from medieval vellum manuscripts to printed copy in the Renaissance, but its recognition in our field would have to wait until another generation of instructors arrived.

Later in the decade I was privileged to know a college president who had enormous vision and capacity for leadership. He sent me to numerous conventions, allowed me to express my interest in online work, and permitted me to make numerous presentations for faculty, students and staff at our college. I created dozens of well-designed PowerPoint programs explaining the use of computer programs and online techniques for both faculty and students, and began to teach online using only email in 1999.

At the time, I sent text to students each week laden with hyperlinks connecting text to web photos that illustrated certain instructional points. Since message sizes were quite restrictive, one could not attach large files to emails. Photos were often available only as tiffs or gifs, audio files were even more difficult to attach, and attaching video files was nearly out of the question. Many times I asked our AV people to convert film clips into gifs in order to illustrate a film technique or some such item in my course that I couldn't locate on the web. The environment was much different from today when one can simply type in a link and access thousands of YouTube examples. I corralled about 400 photo links on the web for the totality of my course, but had to closely watch the links each semester because experience proved that there was a failure rate of about 25 percent online for all websites—a failure rate that has remained constant since.

About this time, several company representatives came to Arkansas to present delivery management systems to schools of our state. Murray Goldberg was among the presenters, and several colleges in the state adopted his WebCT course management system. Soon I switched from weekly emails to WebCT format. But I was still not able to fully use the resources of the program until 2002 when WebCT permitted somewhat more trouble-free connections to audio-video attachments. Gifs, tiffs, avi's, wav files, and the like, necessary for a general humanities course, required so much download time back then that downloading them taxed the patience of even the most patient users of the system.

Nevertheless, the early form of WebCT was absolutely fantastic. I always wondered how someone could anticipate virtually every move an instructor would make in the classroom, and put that into an elegant program. But, then, I should have expected such things at a time when so many bright young minds surfaced in the field of computer science. Computer whizzes had already developed the PC and Mac, so now it was time for practical programmers to come along with their innovations. Simply learning the pathways and procedures of WebCT and other associated systems was an enormous project for me. Fortunately, it paid off later in terms of online course organization and ultimately in the clarity of my physical classroom presentations.

I quickly developed WebCT courses for both Humanities and Music Appreciation that were the first of their kind in the 12-state southern regional conference. At the time, our institution was a regional entity and there was administrative hesitance about seeking students from out of state. Even though my courses were the first of their kind, the fact was kept hidden and we did nothing to recruit students from elsewhere in the state—let alone from other states. It took another decade and another administration finally to allow contact with such students—especially after being confronted with the success of online educational institutions such as the University of Phoenix. To me it seemed obvious that we would ultimately be forced to adopt this form of education in light of the enormous growth experienced by online schools.

British Open University was one of the earliest online classroom entities appearing during the 1970s. Using the digital resources and techniques developed after World War II, many of subsequent schools developed custom designed script-based scenarios (much like designing a Hollywood movie) with visual illustrations for courses, as needed. This was an expensive proposition that was resolved when individual PC and digital course management systems came along that allowed instructors to develop their own scripts, visuals and sounds. Eventually, connections to YouTube examples on the web strengthened just about everyone's web page development.

While the potential existed to convert all courses to 100 percent online experiences, it soon became evident that course management systems were also useful as classroom enhancements. Online courses not only addressed the needs of time-bound and place-bound students, but also provided enhancements to existing courses in terms of supplementary chat rooms, testing, and grade book management. Discovering these new possibilities of hybrid courses became another interesting experience for those of us who had originally developed exclusively 100 percent online courses.

It was an exciting and heady time. We had brown bag lunch meetings in which people from nearby universities came to share new techniques and methods for online delivery. Pedagogy was not a bad word in the world of virtual delivery, since many people immediately realized the necessity to translate good things in classroom teaching into the virtual medium. It was fascinating because no one had ever done this before. Whenever a faculty member came up with a new pedagogical idea, he or she quickly communicated the discovery by email—sharing information about new programs, communicating a trick or two about how to improve WebCT processes, or sending out some useful bits of HTML code.

These “early starters” also recognized many of the best practices in online systems delivery. They discovered the importance of avoiding terse answers when responding to students, of increasing the frequency of contact with the students, and of having video orientations in their courses. Students were asked to introduce themselves to each other in the Message Board at the beginning of the semester, and questions were developed to promote a sense of group through chat rooms, discussion boards, and email (see Figure 1).

Observing the practices of the film industry, instructors chunked their course material into short, digestible fragments, and even followed the recommendation that one should not teach an online course unless the course had already been taught in the classroom at least one semester. I believe that the early starters in this field knew as much as anyone today about the pedagogy of online instruction.

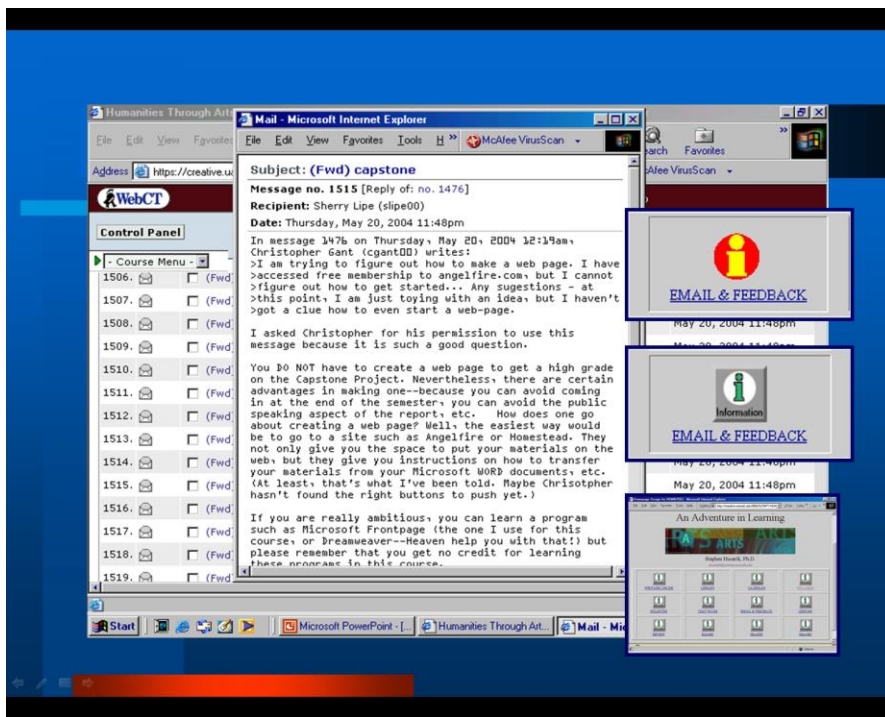


Figure 1. Screenshot from the author's 2004 WebCT email message board, showing a discussion and disposition of icons.

Since then, I have tried to retain that spirit of invention and discovery by finding new ways to apply online delivery to the classroom. In my view, instruction involves not only the technique of communication between instructor and student, but the whole panoply of academic experiences including classroom teaching, fund-raising, public contact, and research. In recent years, I have attempted to involve donors, faculty, residential students, and traveling students, in large-scale capstone projects using the course management tools such as Blackboard, successor to WebCT.

In addition, I recognize the importance of audio-visual tools in effective teaching and realize that in their new incarnation electronic courses may be thought of as a series of films. This will certainly challenge people such as the humanities professor who insisted that the online world has nothing to do with his field. One can sympathize with him because online instructors might

be pressured into becoming film designers in the future—and that could detract from content issues. Nevertheless, I see the development of online instruction as endless as technology is endless. The more tools we have, the better our understanding will be and this will promote improved delivery systems.

We are blessed to have the founder of WebCT (prototype of Blackboard) presenting an article at the head of this issue. I asked Murray Goldberg to tell us about the how WebCT came into existence, the problems he ran into along the way, and what he sees as the future of online instruction. You will see that his article is compelling reading not only for the humanities, but other fields as well. We are also happy to present articles by some talented scholars and pedagogues in this issue. Amanda Starling Gould presents a case study illustrating many approaches to the use of digital tools in a humanities writing course. Lee Ann Westman and DeAnna Varela show how the best qualities of a 100 percent online course have benefitted their hybrid classroom courses. Laura Moorhead explains how the digitizing of primary sources has improved the ability of her students to obtain a deeper understanding of history. Michelle Summers, Kimberly Downing Robinson and Rebecca J. Timmons offer insight into improved assessment practices through virtual contact. Dan Leopard presents a cogent micro-history of media in education that will remind many of us about changing technologies we have experienced in our lifetimes. Michael Brazley describes how portability in architectural education will have an impact on the future of education. My own concluding article speaks to the phenomenon of the traveling professor who seeks to produce public humanities presentations with the help of students, staff, donors, and course management systems.

I especially want to thank Mary Ann Koory for her exceptional editorial work on this issue. She cooperated with the authors, offered insights and improvements, and expedited the process of bringing together a meaningful collection of articles that I believe will be consulted long into the future.

While Humanities is and always will be about criticism of the arts and sciences, by necessity it is tied to communication and education. In that sense, it cannot exist without pedagogical features and formats. This issue of *Interdisciplinary Humanities* addresses the history, techniques and manner in which pedagogy has affected and been affected by the Humanities. Enjoy!

E-Learning and WebCT: Beginnings, Revelations, False Promises and Unfounded Fears

Murray Goldberg, Founder of WebCT

Introduction

This article looks broadly at e-learning: its beginnings, staggering growth and pervasive effects. It discusses the early expectations and fears that surrounded e-learning and how we have used e-learning as a tool to transform education. It contemplates where e-learning is going. But this is not a story about technology. Instead it is a story about our e-learning community.

Let me begin by telling a personal story, a story about the moment I knew that e-learning was (at the risk of being overly dramatic) going to change the world. It is a story about the very second I realized that this incredible e-learning community—a community of passionate educators, experimenters and thinkers—was exactly where I wanted to spend my professional life. For me, this is a story about the beginning of large-scale e-learning in higher education. It is illustrative of, and foreshadows, the years that followed—the hopes that we all placed on the shoulders of e-learning and the fears that we knew e-learning would realize.

It was the first day of September in 1997. In fact, it was the very first second of the first day of September in 1997—the relevance of which you will see shortly. I was a Computer Science Department faculty member at the University of British Columbia (UBC) and for almost two years had been doing research on the effectiveness of web-based learning. This was in the days before the establishment of learning management systems (or LMSs) as we know them today. Therefore, to conduct our first round of research we had to create a web-based course “by hand.” Unfortunately, this was an expensive process that required at least a moderate level of technical expertise. It was not a process available to the average educator. It took my team of four undergraduate computer science students one year to code our first course website. The cost was roughly \$50,000, which we acquired through a grant.

Based on that first experience I decided a better approach would be to build some tools that would enable the creation of web-based courses quickly, without the need for technical expertise and at a comparatively low cost. This was the beginning of WebCT. WebCT is an LMS—software infrastructure for the facilitation and management of online learning and assessment. Armed with a second \$50,000 grant, we not only created the first version of WebCT, but also produced four courses with which we could further our research.

But let us go back some 16 months to when this really started. It was May 1996 and I had given a paper and presentation in Paris, France, at the Fifth International World Wide Web Conference (WWW5). At that conference I was describing the results of the above-noted experimentation comparing the relative merits of web-based learning, in-class learning and blended learning (more on this later). The audience was politely receptive to our findings of the academic outcomes and student experiences of the three delivery modes. But during my conclusion, when I mentioned that we had created these software tools (WebCT) to support our research, and that those tools facilitated the creation of relatively sophisticated online learning environments, suddenly the room came alive.

“That’s odd” went through my mind. “Not what I expected.”

I had hoped they would respond more to what I felt were the surprising and interesting research outcomes, rather than the tools we built to support that research. But, yes, who was I to tell them what they should be interested in? And yes, I was more than happy to comply with the requests of the dozen or so audience members who had queued up after the talk to ask for copies of WebCT for their own use.

A few months after my WWW5 presentation—and still a year away from the “first second” that is the subject of this story—approximately 75 universities were using WebCT, and the usage was growing quickly. But I was already starting to realize that we needed to do something. We could not support all of these users on the research funding that I had. That is not what it was for. So I began discussing options with UBC’s university–industry liaison office. After much time and some false starts, it was decided that the best way to support the users of WebCT was to create a UBC spin-off company. And who better to run the company than I? I knew WebCT. I imagined I could run this company in my spare time with the support of one or two part-time undergraduate students. So, around March 1997, roughly six months before that “first second,” WebCT was formed and plans were made.

I had decided that we could charge a small annual fee to users of WebCT to facilitate their support. And the date when users would have to start paying for the use of WebCT was set to be—yes—Sept. 1, 1997. We had some work to do leading up to that day. Roughly 100 universities had installed and were using the software by that time, and we had to get them all to update to the latest “production” version of the software before that date. To make sure that there were no older “beta” copies of the software still in the wild after September 1, we added some code in various locations throughout the beta

version of WebCT that checked the date whenever the software was used. If that date was found to be September 1 or later, WebCT would stop working and ask the user to update to the production version. We were all prepared as September 1 approached.

In fact, we were so well prepared, I thought, that I had no trouble sleeping on the night of August 31. I was already sound asleep when I received a call well before midnight from Sasan Salari, the chief technology officer of WebCT and my eventual business partner in the company. Sasan had begun receiving email from some of our users in Australia where the morning of September 1 had already dawned. WebCT was not working there.

"Had they installed the production version?" I asked Sasan.

"Yes," said Sasan. They had.

"Uh-oh," I said.

It turned out that all around the world, when hundreds of universities began actually paying for the use of WebCT and for our support in that use, WebCT had suddenly ceased to function. For everyone, everywhere. I knew we were finished.

Sasan and I spent the rest of the night in a panic—her looking for the problem and me mostly pacing (I felt it was my most reasonable contribution at the time). It turned out that the beta code we had inserted to check for dates had slipped through to production and caused WebCT to stop working. Since that code was in the homepage area of WebCT, all users around the world were treated to a non-functioning WebCT as soon as they logged in. As the sun rose on September 1, in various parts of the world, reports came in from those locations. I responded to the news by pacing a little faster. How would we explain this?

Throughout the night Sasan wrote a software patch that could be installed at all 100 sites, and I worked on a letter of apology. Sometime in the early hours of the morning of September 1, our time, I sent a note to all of our users that contained the patch and the profuse apology. The subject of the email was entitled something like "We have a problem." Sasan and I went to our respective homes and respective beds. Neither of us slept.

When I arrived at the office the next day, I found 75 replies to "We have a problem." Seeing 75 repetitions of "We have a problem" in my inbox seemed to underscore the magnitude of the problem. I held my breath, stood back a bit (like someone would in anticipation of a tongue-lashing), and opened the first reply. It was from an Australian user—a very kind person who seemed very happy for the fix and who apparently held none of the ill will we deserved. I opened the second reply, which was much like the first. Still holding my breath, I opened the next, and the next, and the next—in ever-growing amazement. Of the 75 replies, one was from a mildly perturbed user. The other 74 held nothing but thanks and praise for our "quick action and cure." Comments such as "You guys are great" were common. Had they forgotten who had created the error and extra workload for them?

This moment, the morning of Sept. 1, 1997, was a revelation for me. Who were these kind, generous and passionate people? People who cared enough about changing education at their institutions that they were willing to be on the bleeding edge of technology and roll with the punches? People who were so positive and supportive of what we were trying to achieve with WebCT that instead of berating us (which would have been well deserved), they thanked and encouraged us? I cannot describe how this outpouring of support in response to our ruining the mornings of 100 people around the world buoyed me. I loved those people, this community! I loved educational technologies and what we all felt they could do for education.

I learned so much at that very moment. I learned that this amazing community existed and that I had to be a part of it. They wanted to improve the world and understood that risk was an inherent part of progress. I learned that e-learning was something that people wanted—or at least wanted to experiment with it and understand. They were waiting for this. They knew that education had not changed much in the thousand years that preceded that moment and they wanted to be part of a new movement—a movement that enabled a new look at what we do in our classrooms with an eye toward improving education. It brought home, in a very personal way, the responsibility I had to this community to serve its members by being just as resilient as they were to the inevitable failures that experimentation brings. I felt I could do this by providing them with the technological tools that could facilitate educational experimentation and by being an evangelist for the change, measurement, refinement and improvement that these new technologies enabled.

I knew right at that moment that I had both an enormous desire to be a part of this community and an equally enormous responsibility to serve this community. Those desires have never wavered, and neither have the tremendous support, collegiality and passion of the worldwide e-learning community. This was the true beginning of something I had begun almost two years earlier. For me, it would occupy most of my waking life for years afterward, and then all of my professional life to this very day.

Now it is the spring of 2014—almost 17 years after that “first second” in September 1997. All of this time, I have been fortunate to have a front row seat to the e-learning “revolution” from many vantage points. I have been an e-learning researcher, developer, user and business person. I have been an evangelist this whole time, giving nearly 100 keynotes and invited lectures per year during my busiest years. It is from all of these points of view that I would like to recount here some of the history of e-learning, and take a look at its evolution. To me it has been a fascinating journey and I would like to share that with you. I could easily write several hundred pages on the subject—and as you are becoming aware, brevity is not my strong suit. But I will choose just a few highlights in an effort to not overstay my welcome.

So—let us look at the growth of e-learning, the early sentiment around e-learning, where we are now, and where we might be going next.

The Early Growth of E-Learning

There has not been a day since 1996 when I have woken up and not been in awe of the amazing change we are seeing daily in education. This is a wonderful time to be an educator or e-learning practitioner. After all, we are only 17 years into this movement. That makes every one of us a part of the experiment. We are all learning as we go, and although we have come far, we have a much longer way still to go.

If you do not immediately share this sense of awe and responsibility, realize that until the introduction of e-learning, very little had changed in education during the thousands of years that came before. Although some educational historians may feel this is an unfair statement, it is absolutely the case that the magnitude of change in only 20 years has eclipsed the combined changes of the preceding 2,000 years. And while technology impacts every part of our lives, I would argue that it has done so more deeply and more quickly in education than almost anywhere else.

In the case of education, the story is not about technology per se. It is about the educational flexibility and experimentation that technology enables. Technology has allowed us to realize our desire to provide a highly student-centered approach to learning. It has allowed us to completely rethink the classroom. It has enabled community/peer learning on a scale never before possible. E-learning has brought education to people who never before had the opportunity to learn because that is one of the many things e-learning does well—it brings education to the learner instead of having to bring the learner to his or her education. It has allowed educational experiences to be delivered, in some cases, inexpensively to massive audiences. By providing metrics and analytics, technology has allowed us to peer deeply into the educational process to understand and improve that process in a way never before possible. In all of this, e-learning has been nothing more than a tool—though it has turned out to be a powerful one.

Although no one could have predicted all of this with any certainty in 1997, some of the writing was already on the wall—at least for those faculty members who knew where to look. And because that writing was very compelling, the growth of e-learning quickly moved into "staggering" territory. At WebCT, by late 1997 it had already become apparent that I would need more than my spare time to manage the company. I therefore took a leave from UBC. The numbers tell the story. By December 1997 there were roughly 3,000 faculty members at 160 universities using WebCT to help teach 500,000 students. By the same month of 1998, the numbers had grown to 17,000 faculty members at over 600 universities teaching 1.6 million students. And by the same time in 1999, there were roughly 40,000 faculty members at 1,600 universities using WebCT to help teach over 10 million students on a daily basis. Much of this growth was driven by students. At UBC, it was not an infrequent occurrence that a colleague of mine would stop by my office to

thank me for the pressure they were getting from their students to do more online as other professors had been doing.

For me, more telling than the numbers was the speed at which adoption decisions were made and implementations deployed at many schools. I recall receiving a telephone call in 1997 from a lovely woman at UCLA (whose name I will leave out simply because I have not asked her if I could include it). She indicated to me that the decision had been made that within approximately six months' time, every course in the College of Letters and Science at UCLA was required to have a course website. The College of Letters and Sciences comprises most of the student population at UCLA. It was hard for me not to be incredulous at the prospect of my new entity (WebCT), with very little experience and barely proven software, serving most of the students at an institution such as UCLA. It was also impossible to ignore the prospect of failure in such a large undertaking and the implications of that potential failure for WebCT, for those at UCLA and for the future of e-learning in general. Fortunately for all involved, the implementation succeeded and we ended up having a wonderful relationship with the great people at UCLA.

The experience at UCLA is an example of one of the two main modes of e-learning adoption at that time. One mode, for which UCLA serves as an example, was the "top-down" decision. There, a provost, dean or department head would decide that there were benefits to adopting an e-learning platform and would then assign the task of choosing and implementing that platform to some unsuspecting faculty member or administrator. I say "unsuspecting" because at that time most people were only starting to hear about e-learning, and there was no such thing as the now-ubiquitous "office of learning technology" or similarly titled entity. In the other mode of adoption, "ground up," one faculty member would decide to set up a server for his or her own course or courses. Once set up, other faculty members would make individual decisions to use the platform and join onto that server. As growth continued in the ground-up approach, the university would often eventually find itself with three, four or even five different servers on campus, all independently administered. This, inevitably, would lead to the realization that some central organizing body was required and ultimately the separate instances would be consolidated.

Although both the top-down and the bottom-up approaches to e-learning adoption on campus were common and generally successful, the bottom-up approach was always more satisfying for me from an educator's perspective. In those cases, the faculty saw something positive and powerful in the use of technology and wanted to deploy and experiment. In the top-down examples, some faculty certainly felt that same way, but others felt that the technology was being forced upon them. This created a different, sometimes less healthy, dynamic on campus. But in the end, regardless of the adoption mode, nearly all campuses eventually arrived at roughly the same place—a central body was created on campus to make e-learning decisions and to support faculty in their

use of the learning technologies. Generally (though not always) faculty were free to choose whether to use technology in their teaching and how to use it. We are now at a point where a learning management system of some flavor exists on almost every higher education campus worldwide. The June 21, 2013, EDUCAUSE® Center for Analysis and Research (ECAR) article "The State of E-Learning in Higher Education: An Eye Toward Growth and Increased Access" reports that 99 percent of responding institutions use an LMS that is either supported in-house or through an outsource arrangement. This is remarkable given that it was not long ago that learning management systems did not exist.

The importance of the LMS on campus was solidified for me during a meeting in 2000 with WebCT administrators at the University of North Texas. They indicated that a recent disaster recovery planning session had enumerated the campus technologies in order of their importance to the mission of the university. That exercise came to the conclusion that WebCT was their second-most mission-critical system on campus—second only to payroll. Once again, this underscored our responsibility to our users and to the e-learning movement.

Fear and Excitement

One of the most palpable characteristics of the growth stage of e-learning during the late 1990s was the feeling of intense expectation around how e-learning could improve education, juxtaposed with the intense fear of how e-learning would ruin education! Some individuals felt both. There were many unknowns, and many questions. Much of what we now know about e-learning was a mystery at the time.

The biggest question, of course, was "Why?" Why should we be deploying e-learning? In fact, should we be deploying it at all? This was an exceedingly common and a very important question.

For me, the question had already been answered. WebCT had not begun as a business. It was built, as discussed earlier, as a tool to support the research I was doing in 1995–96 to evaluate the effectiveness of web-based learning. The research was well constructed—not because I knew what I was doing, but because I solicited the help of a UBC group called the Center for Applied Studies and Evaluation (CASE) to design the experiment. In this experiment we took a large third-year computer science course I regularly taught and divided the students into three groups for the upcoming term. The first group received the course in the traditional way, with me lecturing to them. The second group received the course entirely online, meeting face-to-face only once a week to discuss the web-based experience, but never discussing the course topic in person (all course-related discussions were online). The third group had access to the online offering as well as the lectures (we now refer to this as blended learning). We evaluated the relative academic outcomes of the

three groups and applied a questionnaire to solicit comments on the experiences of the students.

My expectation was that the web-only students would perform less well than the lecture-based students. After all, how could they possibly learn without me standing in front of them as I had for more than five years? It turned out that they could. In fact, the web-based group performed slightly better than the lecture-based group. But what surprised me the most was that the blended group (with access to both the lectures and the web-based presentation) significantly outperformed both of the other two groups. Was there a better way to teach than the way we had been teaching for millennia? It seemed there might be.

On top of the encouraging academic results, we also found that students were far more engaged in the blended group as measured by their contributions to class discussions—something I had always felt was important and tried to encourage in my classes. When asked, roughly half of students claimed that they felt comfortable offering a comment in a class discussion held during lectures. When asked about web-based course discussions, over 70 percent said they felt comfortable making a contribution. Most important, when we took the union of the two groups, roughly 90 percent of students felt comfortable making a contribution to at least one of a lecture-based discussion and an online discussion. To me, this meant that by the addition of a simple technology to the course (a discussion board), we had the potential to move from roughly 50 percent discussion inclusivity to 90 percent. To me this had incredible potential.

Since those early days, a great deal of much more compelling research has been performed. Largely the results have been consistent, as evidenced by a comprehensive 2010 U.S. Department of Education meta-analysis of the existing research.¹ The meta-analysis found that, all else being equal, web-based education is at least as effective as face-to-face, and blended learning produces better outcomes than either web-based or lecture-based alone. This now makes intuitive sense. Both lecture-based and web-based education have strengths and limitations. And by and large, they are complementary—where one is weak, the other is strong. So it makes sense that we can achieve better results by combining the two than we can by using either mode alone.

Although we now know e-learning can improve educational outcomes, this was not always the case. In fact, one of the most common objections to e-learning in the late 1990s was that it was believed to be an inferior form of education, deployed for the sole purpose of cost savings. The argument was taken to its extreme by David F. Noble, a York University instructor and co-founder of the National Coalition for Universities in the Public Interest. In his 1998 article "Digital Diploma Mills: The Automation of Higher Education," he referred to the distribution of digitized course materials online as the "automation" of higher education. He said that such automation is "often coercive in nature—being forced upon professors as well as students—with commercial interests in mind." The highly read and cited paper, while never

really false, was arguably incendiary in nature. One of my favorite quotes was a reference to the UCLA adoption referenced earlier where Noble said:

Marvin [*sic*] Goldberg, designer of the UCLA WEB-CT [*sic*] software, acknowledges that the system allows for “lurking” and automatic storage and retrieval of all online activities. How this capability will be used and by whom is not altogether clear.

Of course, these stored metrics are *meant* to be used by instructors for the continual improvement of the course offering and the identification and support of students who are falling behind. But such was the mood of fear and suspicion, in some quarters, surrounding the introduction and adoption of learning technologies.

In addition to concern over the effectiveness of and motivation for e-learning, there were other common fears. I vividly recall a conversation I had with a faculty member during a visit to the University of Central Florida. She was expressing a plan she had for WebCT—which was to videotape a “star” lecturer and make those video lectures available to her students. She went on to say something of the form: “Who knows, perhaps one day I will no longer need to lecture!”

As soon as she said those words, a look of concerned surprise came over her face. What dawned on her at that moment was a concern many had over the use of educational technologies—that they would put professors out of work. Of course, e-learning has yet to replace the university professor. Yet the idea of taking the lecture out of the classroom is starting to gain some ground with the recent trend toward the “flipped classroom.” More on this later.

There were many other predictions and fears at the time. It was very common to encounter those who felt there was no need to pay attention to educational technologies because they clearly would not last. They were a fad and, like all fads, would fade in time. After all (and I heard this so many times I lost count), “There is a reason that the university classroom has remained the same since the beginning of time—it works.” Another reason I often heard for not employing educational technologies was an irrational (or perhaps well founded—hard to say) fear that having students spend time learning online would somehow lead them to spend ever-increasing amounts of time browsing pornographic websites.

While some of these fears may come to pass (though hopefully most never will), fear was not the only sentiment at the time. There was also excitement—tremendous, contagious excitement—not only about how technology could improve education, but genuine excitement about how learning technologies could re-invigorate the “job” of teaching. I heard from many instructors around the world, sharing with me stories of what this new “era” meant to them as teachers. It gave them a tool for which there was no instruction manual (quite literally no instruction manual at first in the case of WebCT, and

I am not proud of that). And since there was no real established precedent for exactly how to best deploy this new tool, suddenly everyone was a part of the experiment. How exciting was that? Suddenly there was a tool whose use in some sense was limited only by the imagination of the instructor wielding it. It became clear that educational technologies spawned a renaissance of learning experimentation and research, and since there were no established experts, everyone could contribute. And contribute they did. In 1995 and 1996, there were no conferences or journals that I was aware of dedicated to experimentation with learning technologies. The first few papers I gave were at conferences about computer science education or the World Wide Web. But that changed very quickly with the new wave of experimenters—they needed venues to discuss their experimentation. Thus was born the "educational technology" conference. In a few short years the number of such conferences went from zero to a number in the hundreds.

But the most positive and most prevalent sentiment was indeed excitement. To quote a newsletter I wrote in 2001 that discussed whether there was a benefit to taking an existing course and putting it online:

But there is a more subtle, though possibly more significant, benefit [to putting an existing course online] as well. I have seen this benefit over and over. The real beauty of taking a course you have taught for (possibly) many years and putting it online is that this act drives a thin wedge into the previously closed door of educational experimentation and pedagogical self-evaluation. I can't count the number of times instructors have approached to tell me how their use of the web has reintroduced them to the excitement of teaching. It has gotten them to begin to think again about how they interact with their students and how their students interact with one another. It has gotten them to think again about how their students learn. It has gotten them to begin to learn more about teaching, and about teaching in a new way. ... In short, it is so often the case that the act of making one's course available online leads to a rediscovery of teaching and experimentation with pedagogy that did not exist before. I have seen this over and over, and I know I will see it again.

This mood of excitement was so strong and so contagious that, for most, it overshadowed the fears and concerns that naturally accompany change.

Where Are We Now, and Where Are We Going?

Fifteen years ago when asked, as I often was, what the future of e-learning was likely to bring us, my answer at the time was to foolishly list yet-unseen learning technologies that could further transform the educational experience.

Things like tele-presence or virtual classrooms would top the list (both of which I had seen beautiful prototypes of). My answer was foolish, but not because it was necessarily wrong about the kinds of technologies that could be used to enhance education. It was foolish because the real change, and the real story, is not about technology. It is about how people are using these technologies in innovative ways to enhance education. In fact, the technologies involved in e-learning are, for the most part, pretty technically uninspiring. This is one of the few things I can say with reasonable authority as a computer scientist and educational technology developer. Most of these technologies are simple uses of well-understood web and database tools. And in fact, it may be tempting to be disappointed by the fact that learning technologies have not changed a lot in 15 years. But again, in this case the medium is not the message. It is how the medium is deployed. And we have seen a lot of wonderfully innovate deployments of educational technologies that transform learning. This is the story of the last 15 years and, I am sure, of the upcoming 15. Let us look at some examples.

One great example is the transformation of distance education. Before e-learning, distance education meant the receipt of a textbook, some course handouts and a telephone number to reach a teaching assistant. It was a difficult, solitary experience. E-learning transformed distance education into an experience that is, in many instances, highly social, highly interactive, highly engaging and by all accounts highly successful. According to a 2011 report "Going the Distance: Online Education in the United States," the rate of growth in online learning was then 10 times the rate of growth for higher education overall. E-learning makes distance education a viable option and students are responding. Many of these students would not have had access to education before—or at best would have had access only to an inferior form. It is now very common for students, even residential students, to take online courses either alongside or as a replacement for their lecture-based classes. They do so for variety, for scheduling reasons, for access to superior courses at other institutions, or simply because they prefer them. As of 2013, over one-third of higher education students were taking one or more fully online courses.

There is some real experimentation with the nature of online courses as well. Very few readers will be unfamiliar with the term MOOC—for Massive Open Online Courses. Here, again, the story is not about any significant technological change, but about how technology is being used to reach an audience of a different nature—in this case that nature being "really big." MOOCs hold the promise of education for everyone, and notable courses have seen some truly massive enrollments—often accompanied by dropout rates that are nearly as massive. What is interesting about MOOCs is the careful thought that is going into the problem of how to address the educational needs of individual students, in a personal and effective way, with very little in the way of dedicated instructor time. So although MOOCs have had their ups and downs, regardless of whether they succeed, there will always

be a place for very large enrollment online courses. What is more important, education in general will benefit tremendously from the lessons derived as a result of trying to address the needs of such large audiences.

There are also many excellent examples of experimentation with new pedagogical models being applied to traditional educational settings—namely the classroom. One of the most interesting to me is the one I referenced earlier—the "flipped classroom." As indicated earlier, in the flipped classroom approach, lectures are taken out of the class. Instead, they are recorded and the students are asked to watch the lectures before class. The arguments for the flipped approach are many. First, it is argued that it is a poor use of instructor time to deliver the same lecture, year after year, to new groups of students. Perhaps it would be more effective to put some of that effort into creating one outstanding example of the lecture that can be used over and over by different groups of students. This, arguably, improves the lecture while reducing the aggregate time the lecturer spends lecturing. Second, it is argued that because lectures are largely non-interactive, they do not take advantage of the fact that the students have the undivided attention of the instructor for the duration of the class. The lecture could be just as non-interactive if delivered via video, and the classroom time could be used for activities that actually do benefit from the presence of the instructor. These activities might include group exercises facilitated by the instructor, discussion and debate, and social learning activities. Here again, this is an example of a novel pedagogical approach facilitated by simple technologies.

This latter experiment, the flipped classroom, is a wonderful example of what is arguably the greatest benefit that has been facilitated by e-learning. The benefit I am referring to is the renewed focus on the learner. Our traditional classroom-based learning models are not student-centered—they are a rigid, one-size-fits-all approach that actually fits no one perfectly. Or perhaps said in a different way, traditional classroom-based approaches are focused on one student and perfectly fit that student—the "typical student." When I lecture, I aim my lecture at the "typical student." I lecture at a pace that I deem to be appropriate for the "typical student." I assume the pre-existing knowledge of a "typical student." I cover the material I believe the "typical student" needs at a depth and with language that is just right for that student.

The sad part is that this typical student is, of course, a myth; I would often have 200 or more students in my class during those lectures. All are atypical. This means that the class was right for no one. Even if I was successful in my attempts, I would be lecturing too fast for half of the students and too slow for the other half. Half are bored and the other half are struggling to keep up. Half may already know what I am explaining, and to the other half, it is new. The best I can hope for is that what I do in class is not too far off what most students need. If I do my job well and am lucky, it will be close to right for most, kind of right for many, not quite right for some, and hopelessly wrong for a few. That is if we are lucky. This is not student-centered learning. It is focused on the process, not the student's needs.

Salman Kahn, of the Kahn Academy, expressed this unfortunate focus on process rather than the student very well in a lecture he gave, available on YouTube, called "Rethinking Education." In this talk he lamented that in a traditional education, the "fixed" part is the duration of the school year (roughly 10 months) and the "variable" part is how well and how much the students learn. He argued that this is completely backward. Instead, the "fixed" part should be that all students achieve a mastery of the subjects taught, and the "variable" part should be how, and for how long, students learn. This is the goal of student-centered learning—putting the student at the center of the educational process and facilitating his or her learning in the way that is most meaningful, and works best, for that student.

The idea of student-centered learning has been around a long time—well before educational technologies appeared. But educational technologies have, in many cases, realized the true promise of student-centered learning. At its most basic level, online learning is student-centered by its nature. Students learning online can learn where they are and when the time is right for them—not where the instructor is and when the instructor is available. Online students can learn at the pace that works for them as individuals—not at the pace the instructor deems correct for the mythical “typical student.” Online students can skip over learning materials they already have good knowledge of and delve more deeply into those materials they are weak on. If an online student learns more effectively by reading web-based reference materials than by listening to lectures, then he or she is free to learn that way. If another prefers recorded lectures (with the ability to stop, rewind, digest and research), then that student is free to learn that way. In many cases, online students can take as long as they need to complete a course—be it a month, six months or a year. With online learning, the fixed part is mastery of the subject and the variable part is how, when and for how long the student is learning. This is student-centered learning.

Another very powerful aspect of learning technologies is that they have the ability to connect people to one another to create a truly social learning experience. Despite some people's intuition to the contrary, online learning can be a far more social experience than face-to-face learning. In my own experience delivering blended learning courses (traditional lecture-based courses with a strong web component), both my students and I were far more engaged with our "learning community" (the students, teaching assistants, and me as the instructor) than ever before. I recounted earlier how the students were far more likely to contribute to class discussions by virtue of the availability of the online discussion board. In our experimentation, although there was never any external or artificial incentive for the students to post comments in the forum, nearly all students posted at least once during the term, and some posted a hundred comments or more. I had online interactions with students and felt I knew them well—even though I would not be able to identify them in the classroom.

Of course, this (like many things) was a surprise to me. When I originally created and started using the discussion board in WebCT, my reason for doing so was that I had grown somewhat tired of answering the same question time after time for different students. By implementing the discussion board, I felt that once a student asked and I had answered a question, the question and its answer would be there for all to see—saving me the effort of answering many times over. That was, indeed, one effect. But there was a much better one in store. What I found was that when a student asked a question, often another student would answer it before I was able to—and I was pretty quick. Then a second student would comment with either support for the first answer or perhaps with a completely different answer. Then a third student would comment, and a fourth, and so on—until a full-blown discussion ensued. By now we have all seen this—it is commonplace. But at the time it was an enormous revelation for me. It was the formation of a peer-learning community where each member had something to contribute in support of the others. Without the simple technology to facilitate this, the best one could hope for would be small-scale learning communities facilitated by planned study groups. That hardly ever happened. But with the online forum, everyone could contribute and benefit. There was simply no other venue available where 100 percent of the students could participate in extended discussions focused on the course topics. It was a shock—one that made me realize I was suddenly much less important to the learning process than I thought I was.

Conclusion

So if you were to ask me now where these learning technologies are going to take us, and what they are going to look like in the next 15 years, my answer will be very different than it was 15 years ago. Instead of looking to the technologists for the new and shiny computer programs that are going to change everything, I have learned the lesson taught to me by the preceding 15 years. I therefore now look to you. The amazing changes in education over the next 15 years are going to be your innovative applications of mostly existing, but some new, technological tools. The tools themselves will be technically uninspiring, but they will be good tools. And you (and others) will use them to place students even closer to the center of their educational experience, to continue to tailor each student's learning path to be the exact right path for that student, and to further deconstruct the process of education and reconstruct the focus on the goal: mastery for all students. You will use these technologies to form new, bigger, and more cohesive and connected learning communities where every member is both a learner and a teacher. And you will use these technologies to further redefine your own role in education as someone who makes all of the above happen, as opposed to someone who delivers the same lecture year after year. The potential of e-learning as a tool is still not fully written and we are all still very much a part of the experiment. It is the responsibility of each and every one of us to embrace that role and to try

something new, however small, every time we teach, even if it has been tried before, regardless of our past successes or failures. We learn something new every time we try, and we must share that experience so that others learn from our own efforts.

And just in case you are not aware of the tremendous importance of your efforts in all of this, consider the following. Every time you do something, however small, to improve the educational outcomes of your students, you have made a difference in those lives. But that positive change you have made does not stop with those you teach directly. If we believe in the value of education, then we know that a better education can help lead to a more insightful and productive life. Therefore your more insightful and productive students will touch and improve the lives of many others. Some of your students—whose education you have directly improved—are going to become (for example) medical doctors who, thanks to you, more effectively diagnose the illnesses of their patients. Other students will become poets who more deeply touch the hearts of their readers. Still others will become lawyers who do better at whatever it is that lawyers do (no doubt making their clients happier). And best yet, still others will become teachers. And those teachers, whose education you served to make just a little bit better than it otherwise would have been, are going to be better teachers—thanks to you. They will then, in turn, more effectively derive new ways of employing learning technologies, and better educate their own students than they otherwise would have been able to do had it not been for your efforts. And on and on it goes. So make no mistake—you are a part of this movement to transform education, and the positive change you make now, big or small, impacts all of society, generation after generation.

The future of educational technologies is held in the hands of educators themselves—an exciting prospect.

Notes

¹ U.S.Department of Education, Office of Planning, Evaluation, and Policy Development, *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*, Washington, D.C., 2010.
<http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>

Doing Humanities Scholarship Online: A Case Study for the Literary Digital Humanities Writing Course

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Introduction

The humanities are now digital humanities.¹ Not only are our traditional artifacts being digitized and digitally archived, but new works are born digital daily.² In addition to our objects, our research and teaching methods are progressively more digital as well: we now use basic mobile device technologies and highly-sophisticated computing platforms to learn and to teach; we communicate and collaborate online; we mobilize social media and public networks; we analyze, curate, collect, map, graph, read, write, search, and perform using digital tools. We are also seeing the evolution of our classroom spaces as contemporary course designs permit us to teach entirely online, to use hybrid structures combining online and in-person instruction, to create co-located multiply-authored courses, and to teach in classrooms ‘augmented’ by digital technologies and high speed wireless connections.³

As instructors, if we are to perpetuate successful future humanities programs, we must acknowledge the emerging evolution of humanities materials and the changes they initiate, and must take advantage of our contemporary tools. Digital materials and the questions they provoke urge us to reevaluate how we teach, assess, and create digital scholarship in the humanities, and I believe they likewise facilitate methods for doing so. If we fail to integrate digital methods into our humanities scholarship and pedagogy we are not only adopting unsustainable methods but are arguably actually doing our scholarship, our disciplines, and our students a disservice. It is possible and, I would argue, necessary to effectively integrate the digital humanities into even the most inelastic of disciplines and institutions. In order to suggest a program and a validation for doing so, I here offer my *Augmenting Realities* Duke University undergraduate course as a model for a media-based

literary digital humanities writing course. This article details my method and motive, and illustrates several of the assignments I devised to translate traditional literary pedagogy into digital literary pedagogy. Because the question of how to assess digital scholarship remains an ongoing challenge, the final section presents rubrics and a collaborative student assessment exercise. Recognizing that the tools, language, and field dimensions of the digital humanities can at times be difficult to navigate, I have incorporated a glossary of the referenced terms of engagement and a short list of recommended resources for continued research.

The goal of this case study is to spark critical pedagogical innovation and to provide a practical and theoretical framework for designing a digital humanities classroom.

Motive

Augmenting Realities is a literary digital humanities writing course that teaches students multimodal approaches for reading, writing, and theorizing print, digital, and transmedia literary artifacts. One of the primary goals of this course is to interrogate how media technologies and our various layers of ‘reality’ converge to alter our conceptions of the body and the brain, of time and space, of art and literature, of data and information, of memory and storage, of cities and networks, of medicine and prostheses, of the digital and (digital) culture.⁴ The methods of our interrogation are literary in their theoretical foundations but are practically grounded in a digital humanities based comparative media study.⁵ Comprehensive comparative media theory, like that done by Jussi Parikka and Matthew Kirschenbaum, for instance, understands not only how media effects and affects society but also how those effects and affects are produced by the medium’s specific material and technical parts.⁶ Rigorous digital humanities theory, like that done by N. Katherine Hayles and Stephen Ramsay, does the same: it understands that “building is, for us, a new kind of hermeneutic” and that by adding practice to our theory we are not only thinking about, but are indeed “thinking with” the media we use.⁷

The motive is also more practical: I created the structure of this course after observing a typical literary media studies course that mid-way through decided to integrate the option of a creative literary digital humanities project as an alternative for the comprehensive final essay. Unfortunately in this class, the results were hastily-produced projects that failed to demonstrate the critical thinking or rigorous scholarship that was expected. The digital humanities final project was treated as an optional substitution for the traditional essay and not as a natural extension of the course in full. I hypothesized that this course final project most likely failed due to a lack of integration of digital humanities theory and an inadequate definition of digital humanities projects.⁸ The students simply did not know what they were doing. *Augmenting Realities* sought to correct this.

Augmenting Realities

The class meets twice a week for 90 minutes each and the syllabus is tailored for a small-to-medium sized cohort. Below is a screenshot of our publicly-available Fall 2013 course web homepage and our course description.⁹ The course is a writing-intensive seminar housed within the Literature Department at Duke University and fulfills five general education requirements, including Ethical Inquiry and Science-Technology-Society, that motivate our study.¹⁰

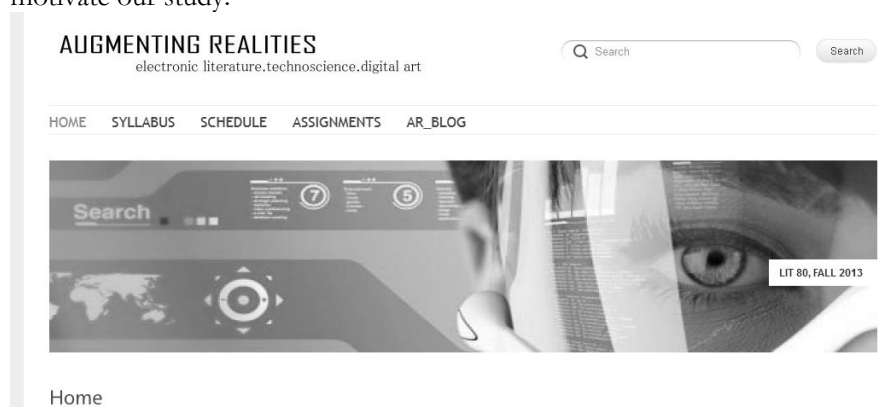


Image 1: Screenshot of our course webpage. Image produced by author.

Course Description: Augmenting Realities 2.0: Technoscience, Digital Art, & Electronic Literature.

This literary digital humanities course will interrogate how media technologies and our various layers of ‘reality’ converge to alter (or augment) our conceptions of the body and the brain, of time and space, of art and literature, of data and information, of memory and storage, of cities and networks, of medicine and prostheses, of the digital and (digital) culture. In considering issues of ethics and emergence, we will forecast future civilizations and explore possible ways of archiving our past and present digital expression. As a digital literary humanities course, we will be not only learning but also making. By creating our own public media artifacts and deliberately remediating others, we will be intimately encountering the ethical, social and aesthetic implications of the digital theories and technologies we will study. Past projects have included programming a chat bot; coding a new digital humanities word analysis tool; mapping EEG brain waves onto piano music scales; and creating narrative videogames.

The website itself is a necessary extension of our in-class meetings as it performs built-in hands-on praxis. We use the site to practice blogging and the articulation of academic arguments in the digital environment, to learn to critically communicate online, to familiarize ourselves with web design and the role of a web presence in digital humanities scholarship, and to digitally organize and re-present the class to our participating external audience.

Method: S.E.E.ing Collaboratively & Creating a Makerspace Classroom: Collaboratively S.E.E.ING in the Digital Humanities Classroom

Unlike the typical research writing course, *Augmenting Realities* is deliberately designed to be a digital humanities course. For us here, the term *digital humanities* represents a method for research and pedagogy, and a community of practitioners, across disciplines, who have purposefully and provocatively integrated digital tools into the critical apparatus of their work.¹¹ My digital humanities method rests on the basic premise that we **prepare outside of class so that we can "S.E.E" Share, Experiment, and Explore, collaboratively in class.** We manifest S.E.E.ing by individually investigating and then collaboratively sharing, by experimenting with diverse modes of reading and writing online, and by exploring digitally-augmented tools, techniques, media, and methods. A detailed account of each of these is below in this article's Manifestations section.

Creating a Makerspace Classroom



Borrowing a method best known to computer programmers, designers in labs, and artists/hackers working with material media, *Augmenting Realities* adopts a makerspace learning environment.¹² Because digital humanities courses are still in beta mode, many of our students have not yet experienced such a program, so many, if not most, students will be entering unfamiliar territory, investigating unfamiliar media, and/or using familiar media in novel (i.e. critical and pedagogical) ways. Creating a challenging but confident atmosphere for creative experimentation is key, and the makerspace embodies this ethos. In the makerspace of the classroom, we acknowledge that each student has different skills and unique strengths, and we champion new discovery as much as we congratulate savvy technological success. In our Fall 2013 *Augmenting Realities* course, with students representing a range of disciplines from neuroscience to public policy, we created a space where the

students would volunteer to help each other and where none felt apprehensive about tinkering, testing, or trying something new.

The combination of the S.E.E Method with our makerspace knowledge environment supports the successful achievement of our course objectives.

- Critically evaluate transliterary, transmedia, and literary digital humanities artifacts
- Use transliterary methods and multimodal media to communicate critical arguments
- Apply techniques of digital humanities inquiry and literary analysis to interrogate and create contemporary literary forms
- Demonstrate an understanding of media-specific writing and culturally-situated media
- Produce non-traditional (re)mediated forms of cultural, literary, and artistic criticism

Upon completing the course, each student in my Fall 2013 session reported that he or she could confidently undertake each objective. Their blogs, their partnered and their individual critique essays, their mini-expert lectures, their transmedia essays, and their performance during in-class challenges and media explorations confirmed this mastery. In addition to achieving these, throughout the semester, each student practiced the important ‘real-life’ skills of collaboration, courage in innovation, and creativity in delivering an argument or idea, and each learned to use media tools—like creating shared ePortfolios using Google Drive—that might benefit them in their future academic and professional exploits.

Manifestations of the Method: Our Favorite Exercises and Assignments

Because syllabi and course assignments can be as instructive as methodological explanation, I here offer several detailed explanations of how our method manifests in the classroom. For manifestations of other digital humanities courses, reference the suggested readings below in the Resources section.

Digitally Annotating the Graphic Novel

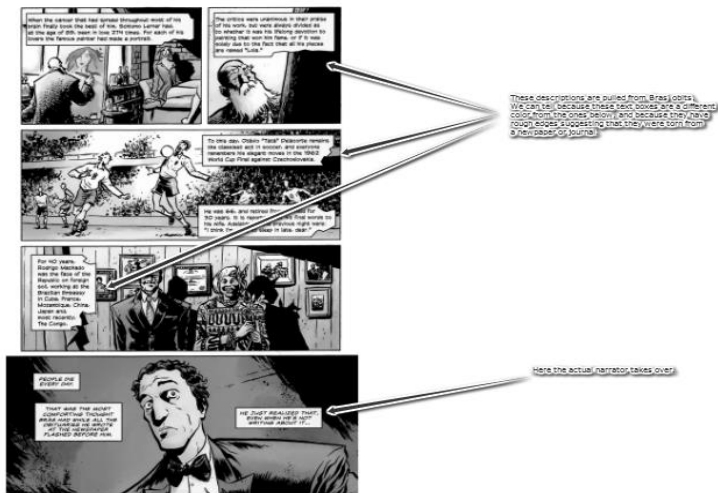
We begin here with one of our impromptu successes. I constructed this assignment after testing the online public text annotation platform RapGenius the week before my students and I were scheduled to read our first graphic novel. I desired a method for mobilizing digital annotation for image-based narratives like the ones we would be studying in class. Though RapGenius offers a useful pedagogical platform for text annotation (it even tracks student activity), it does not allow direct image annotation. Szoter.com does. As with all the assignments listed here, this exercise promotes multimodal thinking,

provokes experimentation for the critical use of digital media, and prepares the students for their culminating final projects. Here are the assignment prompt I created and several examples of the results from Fall 2013.

Assignment: For your Graphic Novel Response blog this week, you'll be digitally annotating pages from the graphic novel *Daytripper* as supplementary 'media elements' to 'augment' your weekly response blog posts. You will write your blog as usual using the Response Blog criteria but will also be required to integrate at least four annotated image—or two full spreads—in your blog. Be sure to explain your annotations if explanation is necessary. You'll be using the Szoter.com platform which will allow you to annotate images with text, shapes, arrows, and colors. You can then save your annotated images and upload them to our A_R blog.



szoter.com



szoter.com



szoter.com

Images 3-5: Graphic novel annotation boards created by my Fall 2013 *Augmenting Realities* students using Szoter.com. Reproduced here with permission.

Brief Expert Presentations

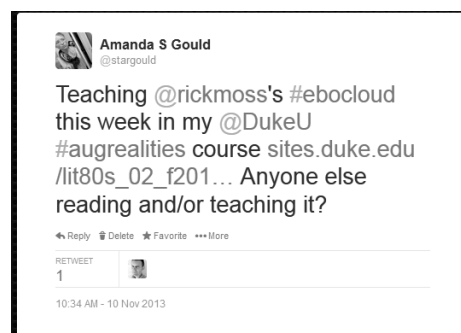
The innovative learning environment of the future reshapes the traditional lecture. Following the premise of the S.E.E Method, the only lectures in my class are the brief expert lectures my students give themselves. An example of

this, which we repeat with various other media including digital humanities tools and digital videogames, can be found in our Electronic Literature Critique Presentation.¹³ This exercise exemplifies this learning-through-teaching method as few students come to class with previous exposure to electronic literature and with this assignment each is asked to quickly become an expert.

For the Electronic Literature Critique Presentation, each student is responsible for teaching at least three assigned electronic literature pieces. This process has multiple benefits: 1) the entire class is exposed to many more pieces than any one student would have the time—or the desire—to read; 2) each student becomes an expert in at least three pieces which grants each at least a cursory confidence in this new medium; 3) each student is elevated to expert and is able to practice his or her presentation and teaching skills by introducing pieces to the class and fielding questions after; and—importantly for us as instructors who continually question how to hold students accountable for pre-class homework—4) by making each student responsible for presenting three pieces, each comes to class prepared. In Fall 2013, we repeated this method frequently and the students were almost always very well prepared and also seemed to enjoy the opportunity to prove their knowledge as experts.

Live-Tweeting with the Author

Twitter a vast, active space for digital pedagogy and digital scholarship. With its micro-size, its global-reach, its creative potential and its hyper-speed, Twitter, perhaps more than many other medium, upends traditional literary conventions. Using Twitter in the classroom then, to communicate, research, and create, challenges students to expand their conceptions of literary media through active engagement.¹⁴ A week prior to beginning a new novel in our Fall 2013 session, I tweeted a note saying we would be reading it:



In response to this simple post, the author himself responded to my tweet and when I asked him to join my class via Twitter for our first session on his novel, he kindly agreed. In class that day, the students signed into their Twitter

accounts, and I into mine, and as we discussed the novel, we sent the author questions and comments and, by way of 140 characters, he responded. The students were thrilled to be able to engage the author and were challenged to condense thoughts and questions into micro-sized tidbits.

Google Glass Literary App Challenge

The Google Glass Literary App Challenge of Fall 2013 was such a successful experiment that I plan to reiterate and reproduce similar—and perhaps even student-constructed—Challenges in future classes. The students were asked to prepare for this class session by watching several videos of Google Glass technology at work but were otherwise given no prompt. For this particular class meeting, we were joined by two fellow Duke Faculty—one a professor of biomedical engineering and the other a professor of biostatistics and bioinformatics—who, along with the students, were asked to prepare but given no insight into my class plan. When they arrived in class I challenged them with the following prompt:

This is the culmination of all we've studied this semester merged into a collaborative Challenge. Keeping in mind all of the literary media we've explored and all of your independent tinkering, ask yourselves *what does literature do and how do our different literary media do this differently?* Today we'll be enacting an in-class speculative design-sprint¹⁵ in order to invent a super app. Last week one of your classmates suggested that creative ideas were *solutions to nonexistent problems*, so I challenge you today to embrace this idea and invent something creative. As far as we know, Google Glass does not yet have a literary app and I think it needs one.

In teams of three, you will work together to design the ultimate Literary Google Glass App. Each team will be responsible for producing a 6-slide presentation following the prescribed structure below. To make the Challenge even more challenging, I am giving you only 30 minutes. You are not being asked to actually create this app so do not panic. We are only designing napkin-sketch prototypes here so no technical savvy is needed.

Slide Prescription:

1. What it is - name, image if you'd like, description (the basic marketing pitch)
2. How it works - tell us how it works and what it does
3. Who it is for - the audience and purpose
4. Why it is cool - how does it stand out from other media? from other apps? Why would people want/use this?
5. Why it is literary - what are its literary elements?

6. What are its potential positive and negative ethical/political/social implications and applications?

Teams of three were randomly composed with the visiting faculty fairly embedded within two of those teams. After a thirty-minute design sprint, we reconvened to share our 6-slide presentations and then posted these for our judges on our website. Unbeknown to the students and faculty, prior to our Challenge, I organized a team of nine expert guest judges—among them a very well-known literary theorist, electronic literature artists, and digital humanities specialists from several states and two countries—who would be deciding the Challenge champion. When I announced this at the start of the Challenge, the students became even more committed to working together to develop a prototype that would both demonstrate the knowledge they had accumulated over the course of the semester and impress a very savvy team of experts. The resulting Fall 2013 proposals were remarkable: *TagIt* textually tags physical space; *Synesth Sense* converts sound to text and image; *Déjà vu* remembers student writing errors and grammatical mistakes and ensures they are not repeated; and *Xperience Learning* provides virtual annotations for textbooks. A challenge like this requires students to quickly aggregate the knowledge they and their team members have acquired over the course of the semester so that they can constructively collaborate to apply that knowledge to create something new. The students must also quickly decide how they will narrate their prototype and articulate its parts, contextualizing both in relation to our course and to literary media writ large. Instead of reading or writing an essay as they may do in a typical literary writing course, they are here instead using prototypes as texts, and they are designing those prototypes themselves. This sort of design thinking demonstrates Ramsay's call for humanities students to be "builders" and speaks, too, to Professor Mark Sample's call for cultivating students who are *more than essay-writers*. Sample organizes his courses—even his writing-based courses—so that students learn not just to write but "to weave – to build, to fabricate, to design" and these are arguably more relevant to the students we teach today.¹⁶ Thinking on the level of design encourages creative innovation based on critical making. Experts like former Rhode Island School of Design (RISD) president John Medea believe that critical making *is* critical thinking and programs like those at RISD are actually built on the premise that design thinking is critical thinking on the level of critical making.

Final Transmedia Essay + Collaborative Web Journal + Comprehensive ePortfolio

I task my students with a final course project wherein they are required to write 'transmedia essays' and to collectively combine these—along with a few jointly-authored pages—into a student-designed course web journal. Here is a truncated version of the assignment prompt for the *Augmenting Realities* final project with a short reflection on the results.

Project Purpose

Throughout the course we have investigated literary media alongside various ‘real-life’ digital art pieces and AR data devices to question how these reflect and simultaneously influence our cybercultural hybridity. We have engaged in hands-on practice in conjunction with our readings, and we want to reproduce this sort of (e)mergent experimentation with our final project.

With this in mind, we will be using the affordances of the digital while also maintaining the rigor of our Writing-attribute requirements to flip the final project into a transliterary digital humanities collaborative web project. Following Katherine Hayles’s call for a modern sort of scholarship that reflects the media artifacts we study, you will be asked to produce a transmedia ‘essay’ wherein “graphics, animation, design, video, and sound acquire argumentative force and become part of the research’s quest for meaning” (Hayles, 2012, p4).

Project Specs

For your A_R final project, you will create a transmedia page on an Augmenting Realities Collaborative Web Journal website. Your A_R Web Journal will be an augmented version of the traditional academic journal and your page will be an augmented take on the traditional journal article.

Your page will include the following parts

1. Transmedia Research Essay on a topic related to the class concepts and texts. This will be the most familiar element of the project as it will be the equivalent of an 8-12 page (double-spaced) scholarly article. You will ‘augment’ this traditional format by inserting media and links, and by integrating a (Re)Mediated Element. Make sure your project speaks to or seeks to answer, ask, or prove a certain argument relative to our A_R course.

2. (Re)Mediated Element: Your essay will include a media element that should speak to or with one of the course topics and/or texts.

Your goals here are

- a. to explore the affordances and features of various media and digital humanities tools in order to choose one – or two – that can help prove, illustrate, or expand the argument or idea you’d like to put forth in your final essay;

- b. to create an element that critically engages a course text or topic and has ‘argumentative force’ or exploratory intent;
- c. to make the media element a seamless addition to your essay by finding a way to integrate it into the argument or arc of the text of your essay;
- d. to address the ‘so-what?’ and ‘why this?’ questions: So, you mapped your novel, so what? What does the map mean or manifest? What can we prove or disprove with your results? How can we use the information you’ve uncovered or visualized or remediated? What is at stake with your project?
- e. to include a note about your procedures and process;
- f. to properly cite and credit all collaborators and tools.
AS ALWAYS!

You could map/remap a novel, curate an e-lit exhibit, analyze one or more of our texts using text analysis tools, design an app or an interactive videogame, augment a physical object (using Arduino, for example), create an AR artwork or a multimedia mash-up. I’ve created a fuller list of examples for inspiration which you can download on our website. Note: Two of you may collaborate on a media element but, if so, you must still write separate essays.

Furthermore, you will be asked to collaborate in two distinct ways:

3. Collaborative Project Design: This will come in the form of active participation in the group design of the website.

4. Interactively Commenting: You will be asked to comment on your classmates’ pages in an effort to take advantage of the living, dynamic nature of the online writing medium to facilitate a sort of interactive conversation with yourselves and the ‘outside’ world.

The Fall 2013 students wrote complex, thoughtful essays that integrated a wide range of ‘media elements’ that they created to complement, challenge, or construct their critical arguments. They coded chat bots, programmed new digital humanities text analysis tools, created digital video games, mapped narrative structures, and set EEG brain waves to music. They published their transmedia essays, along with several co-authored pages such as an introduction and a topical bibliography, in a digital web journal they organized, edited, and designed entitled *Augmenting Realities: How We View and Shape Our World*.¹⁷ Along the way, using Google Drive, they each curated a comprehensive ePortfolio that features the writing work—including drafts, peer and professor comments, brainstorming sketches, and prototypes for their media elements—that they completed throughout the semester.

The Impossible One-Slide (re)Presentation

The one-slide final presentation assignment is perhaps one of our favorites. Each student is given this prompt: “¹⁸For your final project presentation, you will be asked to create one slide (yes, just a single slide) and to spend no more than three minutes (yes, just three) explaining in class to your peers how that one slide represents your entire final transmedia project.” In the Fall 2013 session, the slides and presentations were imaginative and incredibly smart. Indeed we actually decided that these one-slides should be featured on the web journal and so placed them as the image avatar next to each student's short author biography.

Modes of Assessment

How do we evaluate (and grade) the digital humanities projects we plan to create, critique, study, teach and/or assign to our students? I here provide two examples to demonstrate a range of multimodal assessment: I will detail first my assessment criteria for our basic weekly blogging and second, the assessment criteria for our far more sophisticated transmedia essay final project.

Weekly Blog

You will be responsible for posting a Weekly Blog, due on Fridays by 1pm (exceptions will be noted on the schedule). Your responses should reflect on our course readings, our in-class discussions, your experimentation with new tools and media(ted) artifacts, and your experiences working on your course project. Posts should be roughly 200-300 words (about ½ page single spaced) and should demonstrate your understanding of our course texts and topics while addressing the prompt provided. When you discuss a particular text, scholar, media artifact, or quotation, be sure to properly cite those sources—a scholarly blog should faithfully abide printed citation conventions.* In order to take full advantage of the affordances of the online medium, I welcome the use of links and media, and strongly encourage you to interactively engage with your classmates' reflections by adding comments to their posts.

Take your blog writing seriously. This *is* a Writing course, and though we are ‘flipping’ it a bit, we will nonetheless maintain the rigor of that W distinction. Not only will you be graded on the content, construction, and critical reflection demonstrated in your blogs but you might also find that your final project concept emerges while you are writing. You

should use the blogs to practice your thinking and your writing skills.

*For help citing online sources like Tweets, Youtube videos, Blogs, and Facebook posts, see *How to Cite Social Media in Scholarly Writing* here <http://connection.sagepub.com/blog/2013/09/17/how-to-cite-social-media-in-scholarly-writing>.¹⁹

You can, of course, always embed the first two, and link to or take screenshots of the second two, for an enhanced citation presentation.

A_R Blog Types:

Novel Responses: These will act as ‘reading quizzes’ demonstrating your knowledge of the assigned text. You might address these types of questions in your post: In the context of our course topics, what are the questions this novel provokes? What are your thoughts about those questions? What are the implications of the answers? How does this novel fit into the course narrative? As an artifact for our deliberation, what work does this novel do for us? How might one of our theorists situate this novel? If you were to perform a digital humanities type project on or with this novel, what would you do? How does this novel ‘augment’ our reality?

Topic Responses: Questions or prompts related to the week’s texts will be provided for your reflection and response.

Students tend to take well to this prompt and, after a first-round of individualized writing and coaching wherein I send each comments, corrections, questions, points of praise, and suggestions for how they might improve their first blogs, they are soon writing skillful, critical posts. The performance trend following this scheme finds that the second blogs are all of higher quality. By the end of the semester, the blogs demonstrate an enhanced fluency with critical writing, a more developed level of reading reflection, an appreciation of how to write rigorous scholarly posts (e.g. using proper citation for references mentioned and media used), and an increased understanding of how the affordances of the digital – using images, videos, and hyperlinks – can enhance, or ‘augment’ our scholarship.

Assessing the Final Transmedia Project & Collaborative Web Journal

Our final transmedia project brings its own set of evaluative challenges. I take a hands-on, collaborative approach that integrates the students into the evaluative process. We begin with a student-led assessment exercise and from there construct a co-created contract for our final grading criteria. I share here the grading prompt and our student-led assessment exercise.

Final Project Grading Criteria

As with all ‘traditional’ writing assignments, ALL ESSAYS AND MEDIA ELEMENTS must be free of plagiarism and properly cited. They must demonstrate a sustained argument and a critical engagement with our course texts, topics, and contexts, our in-class and online discussions, and our media experimentation. They must be thoughtfully constructed with a coherent structure, a cohesive content delivery, a scholarly tone and they should strive to be grammatically sound and error-free.

We will collaboratively design precise project assessment criteria based on Shannon Mattern’s *Criteria for Evaluating Multimodal Work*. The third week of class, we will be performing partnered #dh project critiques using Mattern’s criteria. At this time, we will select those criteria we find more effective and pertinent to our course and these will become the criteria upon which your final project will be evaluated. These will be posted on our website for your reference and review.

Student-Led Assessment Exercise

Early in the semester, we undertake an exercise to apply a proposed set of assessment criteria to several recent professional and student-made digital humanities projects from various disciplines in order to evaluate their successes and failures. As mentioned in the prompt included above, the students work in teams of two to ‘grade’ digital humanities projects, using prepared assessment guidelines, and to jointly write a critique of those projects that they then present to their classmates. This exercise benefits the students by exposing them to a wide range of digital humanities projects and to a various range of assessment decisions. As we carry out our project critiques, we actually also critique the prepared assessment criteria and discuss how we might adapt these, keeping in mind our course learning objectives and disciplinary standards, to suit our *Augmenting Realities* transmedia essay projects. To solidify our co-created evaluative criteria contract, we place the assessment points online so that we can collaboratively annotate them in an effort to secure a cooperative agreement on the final arrangement of grading criteria that I will use to evaluate their final projects.

Throughout the semester, we integrate discussions of best practices for creating sustainable and credible digital scholarship and we regularly return to our co-created list to evaluate the works we study and to consider the challenges we will face in designing our own digital humanities projects. The creation of our final digital humanities projects is not a last-minute, course-ending requirement but an integrated, natural evolution: we begin thinking about it on the first day of class and throughout the semester, as they explore

projects, tools, and theories, the students develop potential project ideas and accumulate the skills for making them. This, I believe, is why our assignment succeeded where the previous course's final assignment failed. The integration of digital humanities theories, texts, projects, assignments, and tools cultivates the critical-thinking and critical-making skills they need to complete their transmedia productions. This year-beginning student-led assessment exercise ensures the students understand the criteria upon which they will be assessed—an important hurdle in itself—and helps to fuel the excitement and dedication needed to ensure success in a large-scale experimental project.

Conclusion

My Fall 2013 students' final course evaluations were enthusiastically positive with a full one-third of the class adding supplemental comments complimenting this course as "the best I've had at Duke." My evaluation of the students was even more positive. By the end of the semester, this group of undergraduates demonstrated graduate-level critical thinking and innovative making skills. They had each contributed an important and/or impressive dimension to the course narrative and each left with relevant skills to carry into future academic and professional situations.

In *Augmenting Realities*, we set out to interrogate how media augments our understanding of the human and through carefully chosen working exercises—like those detailed above—and our chosen literary works—from novels to electronic literature to narrative videogames—we learn not only how to read digitally but also how to produce multimodal literary digital humanities projects. Alongside learning the critical reading and writing skills gained in a traditional literary writing course, the students in my class, and in those designed similarly, acquire a familiarity and a fluency with the digital literacies—like coding, designing, writing and collaborating online, maintaining ePortfolios, mapping research, graphing data, expressing ideas using multimodal methods, and even managing a public persona—necessary for productive work inside and outside the academy. The students in my classes not only learn to read and write but, unlike traditional writing courses, they also learn to build and weave.

Terminology

Born Digital: Work originating in digital form—as opposed to being digitized and/or translated to the digital—for digital formats.

Digital Pedagogy: Borrowing a definition from Adeline Koh and Brian Croxall: "Digital pedagogy is the use of electronic elements to enhance or to change the experience of education."²⁰

The Digital: Digital as an adjective "Describes any system based on discontinuous data or events." Digital as a noun, most generally put, refers to those systems. This term is most often used in theoretical contexts.²¹

Freeware: Freeware is as it sounds: cost-free software. Though some required (free) registration, all of the tools we use in class are cost-free and easily available on a variety of operating systems and computing platforms. Accessibility is key.

Makerspace: An open environment for making. Usually associated with computer programmers, artists, hackers, and those working in labs to create objects, artifacts, and products.

Remix: To purposefully re-use existing media or objects in order to create a new outcome, a new media, and/or a new product. Method used to creatively adapt music since at least the 1960s.²²

Remediation: “The phenomenon of reproducing the conventions and/or content of one medium in another medium. Also the theory, advanced by Jay Bolter and Richard Grusin, that “new media” always reconfigure older media, and in particular that digital forms both borrow from and seek to suppress earlier forms.”²³

Transmedia, or Transliterary Media Projects: projects that use, adapt, or mobilize their production using multiple platforms²⁴ and/or multiple interfaces and/or by spreading themselves across various media.

Resources

Suggested introductory resources for learning more about the current situation of the digital humanities

- Berry, David, ed. *Understanding Digital Humanities*. New York, NY: Palgrave Macmillan, 2012.
- Bolter, Jay David and Richard Grusin. *Remediation*. Cambridge MA: The MIT Press, 2000.
- Drucker, Johanna, et al. *Digital_Humanities*. Cambridge MA: The MIT Press, 2012.
- Davidson, Cathy and the 21st Century Collective. *Field Notes for 21st Century Literacies*. Creative Commons license, printed by Createspace, 2013.
- Gold, Matthew, ed. *Debates in the Digital Humanities*. Minneapolis, MN: University of Minnesota Press, 2012.
- Hayles, N Katherine. *How We Think: Digital Media and Contemporary Technogenesis*. Chicago: University of Chicago Press, 2012.
- Mattern, Shannon. “Evaluating Multimodal Work, Revisited.” *Journal of Digital Humanities* Vol. 1, No. 4 (2012). Accessed March 28, 2014.

Selected websites and journals for critical digital humanities work:

- *HASTAC* (Humanities, Arts, Sciences, and Technology Advanced Collaboratory): hastac.org
- *Hybrid Pedagogy*: hybridpedagogy.com
- *JDH: Journal of Digital Humanities*: journalofdigitalhumanities.org
- *Digital Humanities Now*: digitalhumanitiesnow.org
- *DHQ: Digital Humanities Quarterly*: digitalhumanities.org/dhq
- *Digital Studies/Le champ numérique*: digitalstudies.org
- *Vectors: Journal of Culture and Technology in a Dynamic Vernacular*: vectors.usc.edu

Notes

¹ Many digital humanities theorists agree. See for instance the texts referenced in the resources section, particularly perhaps Davidson, Cathy and the 21st Century Collective. *Field Notes for 21st Century Literacies*. Creative Commons license, printed by Createspace, 2013; Drucker, Johanna, et al. *Digital Humanities*. Cambridge MA: The MIT Press, 2012; and Hayles, N Katherine. *How We Think: Digital Media and Contemporary Technogenesis*. Chicago: University of Chicago Press, 2012.

² See terms of engagement for a definition of “born digital.”

³ The 2012 Online Survey of Online Learning, conducted by the Babson Survey Research Group and the College Board, reports that 32% of higher education students now take at least one course online and nearly 80% of Chief Academic Officers “perceive online education to be critical to the long-term strategy of their institution.” The same study shows that more than 75% of instructors and administrators find online learning outcomes to be as good or superior to traditional classrooms. For examples of such course structures, see the Pedagogy section of HASTAC’s website at HASTAC.org.

⁴ See terms of engagement for a definition of ‘the digital.’

⁵ In this class, we draw from theorists such as N. Katherine Hayles, Mark BN Hansen, Jussi Parikka, and Franco Moretti.

⁶ See for instance Kirschenbaum, Matthew. *Mechanisms*. Cambridge MA: The MIT Press, 2007; and Parikka, Jussi. *What is Media Archaeology?* Malden, MA: Polity Press, 2012.

⁷ Citations from Ramsay, Stephen. “Who’s In and Who’s Out.” Paper delivered on the “History and Future of Digital Humanities” panel at the annual Modern Language Association Conference, Los Angeles, California, January 6-9, 2011, and N. Katherine Hayles *How We Think* (2012).

⁸ For digital humanities theory, see for instance the texts referenced in the resources section, particularly perhaps Drucker, Berry, Gold, and Hayles.

⁹ The 2013 course website is http://sites.duke.edu/lit80s_02_f2013/.

¹⁰ *Nota bene*: I include this structural information only as a contextual marker and not as a program requirement; the logistics of the digital humanities writing course need not mimic ours—the course could be housed in any number of different disciplinary fields, could take on various classroom configurations, and could have very different contexts and learning objectives. Likewise, this type of course encourages convergence of disciplines and easily invites cooperative interdisciplinary learning.

¹¹ The resources above, particularly those in the websites and journal category, are a good introduction to the practitioners and the most current work being done.

¹² Though this iteration of the makerspace is my own, for more information on makerspaces, see <http://makerspace.com/>

¹³ Electronic Literature is literature made with and for electronic environments. See the Electronic Literature Organization at <http://eliterature.org/> for more information and for examples.

¹⁴ Tweeting with a novelist is just one example of literary Twitter-based scholarly communication. Literary Twitter Role Plays and Twitterature are two examples of creative literature-based Tweeting. For a Twitter Role Play, see Stanford’s Petra Dierkes-Thrun’s Oscar Wilde Literary Twitter Role Play <http://litilluminations.wordpress.com/2012/11/02/a-public-literary-twitter-role-play->

oscar-wildes-the-picture-of-dorian-gray/. Twitterature here refers to original fiction written for and distributed using Twitter.

¹⁵ What is a design sprint for the humanist? “Basically at a design sprint people get together and, in a very short time, take their ideas and talk them out, draw them, work out the details, and actually think about how to take an idea and carry it through to implementation.” <http://dukesteamchallenge.org/what-is-a-design-sprint-if-youre-a-humanist/>.

¹⁶ Sample, Mark. “What’s Wrong with Writing Essays.” In *Debates in the Digital Humanities*, edited by Matthew K. Gold, 404-405. Minneapolis, MN: University of Minnesota Press, 2012.

¹⁷The web journal can be found at http://sites.duke.edu/lit80s_02_f2013_augrealities/.

¹⁸ This prompt is my own.

¹⁹ Gamboa, Camille. “How to Cite Social Media in Scholarly Writing.” *Sage Connection*, September 17, 2013. Accessed March 28, 2014. <http://connection.sagepub.com/blog/2013/09/17/how-to-cite-social-media-in-scholarly-writing/>.

²⁰ Croxall and Koh, Modern Language Association (MLA) Convention, 2013.

²¹ See for instance the use of the term in the work of Mark BN Hansen, Brian Massumi, and Anna Munster.

²² Roots of the Remix: http://en.wikipedia.org/wiki/Remix#Roots_of_the_remix.

²³ Bolter and Grusin, *Remediation*.

²⁴ Platform: “a framework on which applications may be run” <http://en.wikipedia.org/wiki/Platform>.

Active Learning and the Use of Technology, or How One Online Popular Culture Course Changed How We Teach Everything Else

DeAnna Varela, *University of Texas at El Paso*

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I entered the classroom with the conviction that it was crucial for me and every other student to be an active participant, not a passive consumer...education as the practice of freedom.... education that connects the will to know with the will to become.

Learning is a place where paradise can be created.

~bell hooks¹

In the spring of 2008, we developed a special topics course entitled *Gender and Popular Culture* for the Women's Studies program at The University of Texas at El Paso. The course grew out of material that both of us taught in other courses at UTEP and at other institutions and was a perennially popular course. When the provost's office asked various departments and programs to create a cluster of online courses from existing face-to-face courses, *Gender and Popular Culture* seemed like a good candidate for several reasons: the face-to-face course attracted a lot of interest and we assumed that an online class would be successful in attracting students as well; students and the professors used online resources for the course already so the transition to a fully online format seemed more manageable; and the course material prompted a lot of discussion from students, which we hoped would continue in the online format. What we anticipated did happen: the class filled up easily, the internet and library sources fit nicely into the course, and the animated class discussions continued online.

However, we did not anticipate that the students in the online class would master the course material more thoroughly than the students in the face-to-face class, nor were we expecting the more sophisticated presentations and group discussions that the online students generated. When comparing the work of students in both course formats, we found that the work produced by the online students demonstrated a mastery of the material that we did not

find in the face-to-face class. While recognizing that success in online courses might favor students who are self-starters, we believe that even those motivated students do better, in part, because their learning is more active: they are required to regularly summarize and analyze what they are studying. They must demonstrate through quizzes, discussion boards, presentations, and written assignments that they understand the course material and can lead a discussion on the main points of the material. By the time they write their major essays for the course, or give their end-of-course major presentation, they have, by design, a much more than a superficial understanding of the course material.²

Despite not meeting with online students in a traditional classroom setting, we discovered, too, that we connected with more students online than in the traditional classroom setting. Every student must participate in online discussions, and in significant ways. While it is true that student participation in the face-to-face class may be required as well, the online environment seemed to provide a level of autonomy and safety that some students may not experience in a face-to-face classroom.

We began to think of the online course as a source for improving the teaching and learning environment for the course, and to determine how our face-to-face classes could benefit from the strategies we used in the online course. In addition, we researched and incorporated other ways to use technology to enhance the online and face-to-face methods of teaching popular culture. What follows is a discussion of how the online course influenced our approach to teaching and learning in other courses, both online and face-to-face, and the strategies we developed to facilitate more active learning and student engagement in the use and critique of technology and popular culture. Our course tools were also developed with our awareness of being in a tricky position: we were both criticizing the sexist, racist, and classist elements of contemporary technology and media, and encouraging students to employ it for their course work. However, we encouraged the students to see the tools of technology as theirs to reinvent, as we will discuss below.

First, a description of the online version of *Gender and Popular Culture*: the course is divided into self-contained modules. Each module focused on a particular topic, such as advertising, daytime television, video games, music videos, or sports. Students read some introductory material that we wrote and one or two scholarly articles on the topic, take quizzes, and create a database of images that reflect the arguments made by authors in the course readings. They submit their work to the professor, but also to each other in group discussions. This requirement allows them to see what their fellow students are doing, receive peer-feedback on their work, and learn from each other. They discuss the course readings with other students, create group presentations for the rest of the class to view and assess, write essays that make connections among their own work and the work of other students, and write essays that put them in dialogue with course readings. In sum, they master the course material because they are studying the material, producing information about

it, and sharing it with other students. Of course, popular culture courses are well-suited for these activities because students are more likely to have some expertise in the course material; they are familiar, and often very familiar, with advertising, sports, music videos, television shows, video games, and movies, and they are able to draw from their own exposure and interests. However, we have found that even in courses where students do not bring an accessible store of relevant material, such as the *Women and Art* course we discuss below, they are able to post discussions and create presentations that demonstrate mastery of the course material. It just requires more work on their part, and it is work that we did not always require of the students in the traditional classroom.

Seeing the more active learning in the online class made it difficult for us to return to the more passive lecture model in the traditional classroom, even though the students in the face-to-face class were generally happy to have us do the work of introducing and explaining the course material, and even provide examples, show films, and allow them to be passive observers. We started using more ice breakers, group work, and online class discussions with the face-to-face classes, and we used an online course format to facilitate this part of the class. Furthermore, moving quizzes and other quick assessments online meant that we do not use class time to administer quizzes or hand back papers. We also looked for ways for more innovative ways for students to be active in learning the course material. We did not want to simply reproduce the online course for the face-to-face classes, or be conducting a parallel course online, nor could we have every student present his or her work in class.

In both the online and face-to-face *Gender & Popular Culture* course, students interacted with a number of modules that we had created for the course, and were assigned to create a module based on a topic that fit the scope of the course. Mirroring the ones we created, their module had to include a title, learning goals, an introduction, assigned readings and media samples based on their research, as well as the creation of open-ended discussion board posting cues. The results of this type of research and design strongly connected the students to their research, the use of technology and peer-to-peer teaching. This proved to be much more interactive than simply completing a research paper and a classroom PowerPoint presentation. This allowed their research to be applied and made it more interactive by engaging themselves and others in the process, including the professor. Fellow students were required to review and evaluate others modules and provide feedback. Rather than being passive observers, they moved in and out of the module, thus becoming much more involved in the research and the learning outcomes of the course as a whole.

Students recognized their own learning in the course, and wrote:

Well, I learned a lot. I had a feeling about some of the issues that were discussed in this class but my knowledge or inkling about these topics was definitely fleshed out. I learned that women are constantly objectified and

use to sell things. I learned how to recognize stereotypes and how to analyze them in my mind and articulate them in conversation.

I learned how popular culture (mainly the media) affects my thought processes, value systems, and the “lens” through which I see everything. For example the week on the LGBT community made me more sensitive to their existence and needs, specifically viewing them as normal people. Now that I am cognizant of the way the media tries to get inside my head, I can fight it. Everything was very informational, and I also learned how important it is to read different sides of an argument.

Students in the *Gender and Popular Culture* course are also required to consider the material they had created—the modules, the presentations—as well as the discussions they had participated in and develop a strategy, or a plan of action, for their future interactions with popular culture. They consider how they may use some of the same technologies that reinforced sexist, racist, and classist ideas to confront and challenge the dominant messages of the media.

Students complete a similar assignment in a social justice values course. They conduct extensive research over one focused issue or topic that falls within the three themes covered in the course. Next, they identify at least three organizations or individuals who are currently working on this issue/topic. They explore and discuss the details of the organization or individuals such as their mission and what population they serve. Next they build their own plan based on their research. This includes creating the items that they researched such as a mission statement, population served, values, etc. They also describe how their project will work and why it is unique in comparison to their research. Students then address the responsibilities of their plan such as what role will the student play? Who will they partner with from the community (agency, school, non-profits, businesses’, politicians, etc.), and what resources will they need? After this step students project what challenges they believe they may encounter, how they will address these challenges, and how they will measure their success. The last part of their plan is a discussion of how they came to create the plan itself including connections they can make between the course and their community. Students then submit their plan of action and give a presentation to their peers. This assignment has helped students and their peers realize the connection of classroom to community, empower them to be a part of social change, and prepare them for their future careers. Some action plans included a discussion of how to use technology to achieve their goals, but all of them demonstrated the more active and engaged learning that we found in the online courses. And, again, students were able to identify the value of this assignment, and wrote:

One of my favorite aspects of this course was to learn that we can make a change and not sit down and wait or hope for one.

Putting this plan together gave me increased knowledge and awareness about numerous issues affecting the El Paso and UTEP communities that I was previously unaware of. Learning about these issues has left me more committed to engaging in activism to help prevent more people in the community from being placed in negative situations because of a simple lack of education and awareness.

After these modifications (and successes!) in the *Gender and Popular Culture* course, we considered how to use technology in the redesign and re-structure of face-to-face courses such as *Introduction to Women's Studies*, *Women and Work in the Sex Industry*, and *Women and Fine Art* and the design of new courses such as *American Beauty: Questioning & Challenging the Standards*, *Women, Girls & Technology*, and *Digitizing Women: The Great Divide*. For example, content and strategies from the *Gender and Popular Culture* course, such as the image of female athletes in advertising or women in popular music videos, fit nicely into an *Introduction to Women's Studies* course, and there was rarely overlap because popular culture provides so much material. For their final project, students conducted research and wrote a paper over a contemporary topic that relates to the lives of women and girls.

In addition to their research paper, students created a visual representation of their findings by using free online software called *PhotoStory*. Students collected photos, prepared slides facts about their topic, and used background music and/or voiceovers to tell their research story. Once the *PhotoStory* was complete, students would upload their final project to a site called *Vimeo*. Once published on this site the work became accessible to the professor, classmates, and the internet public at large though an identified link.³

Because many people are visual learners this project helped students make the connection to their own research and also teach their peers through *PhotoStory*. In the process students also learned how to use a new technology to enhance their education and bring awareness to issues that affect women and girls. Using any new technology can be challenging and as one student wrote:

I really enjoyed the final assignment. At the beginning I was not a fan of the PhotoStory I thought it was a non- value added exercise. I have since changed my mind. I found myself really putting thought into what I was presenting and why and how it ties into the final essay.

Using technology in the classroom not only furthered and enhanced students' education but gave students strategies to keep up with technology as a method of teaching and learning to stay competitive within the discipline, the university and professionally.

A popular course entitled *Women & Work in the Sex Industry* improved by employing technology and active learning strategies. Of course, there is no shortage of popular culture and scholarly materials to teach about pornography, prostitution and sex trafficking. Hollywood films such as *The*

People vs. Larry Flynt, *Pretty Woman*, and *Taken* are commonly known to students who take the course *Women & Work in the Sex Industry*. However, teaching this topic with documentaries and educational media such as *The Price of Pleasure*, 20/20's *Prostitution in America*, and Shared Hope's *Demand*, creates an awareness of the reality of the sex industry that popular culture simplifies, glamorizes and often times, exploits.⁴

Testimonies of the lives and experiences of sex workers are often included in documentaries, as well as those of people working to improve conditions and stop the abuse of women and children forced into sex work. Rather than have students watch passively, they are instructed to take notes as they view the media which they will later use to write and share a media analysis. In addition, students are asked to post on a discussion board and make connections between assigned readings and media. The students are passionately engaged and moved during these activities and again, participating as active learners through the use and critique of media.

Another example of technology used in this and other courses is an E-Portfolio. For each module within the course students are required to conduct a mini research assignment via the internet and report on it to their peers. For example, they may be asked to find an article, website or image online to critique and connect to lessons within the course.

One module in the *Women & Work in the Sex Industry* course is titled "Everyday Porn."⁵ The purpose of this module is to explore the overwhelmingly sexualized representations of women and girls in American mainstream media. Students review and study the similarities and influence of the porn industry on mainstream media through readings, examples given within a lecture, and viewing any of the four DVDs from Jean Kilbourne's *Killing Us Softly* series. Students are then asked to locate two images of women or girls in a mainstream media outlet (film, television, print media, internet, etc.). One must be an image they consider to be a "positive" representation or "non-sexualized" image of a woman or girl, and the second a "sexualized" representation of a woman or girl.

In a face-to-face section students would bring the printed images to class and tape them to the wall for a walk-through gallery discussion. For the online sections students either post the image on the discussion board or provide a link to the image. The response to this activity has been both shocking and a real eye-opener for the students. None of them had any problem finding plenty of "negative" images of women and girls. However, "positive" images were much harder for them to locate. The visual gallery both in person and online makes a dramatic point to all students that there is a very strong connection between pornography and how women are represented in mainstream media.

The benefit to completing this activity online vs. face-to-face has been the extension of time in a virtual learning space. While there was limited time in the face-to-face classroom for discussion, the online discussion continued during the entire week as students accessed the course shell and the discussion

board. Students often tell us that they never look at media the same again and the online discussions have always been of greater breadth and meaning than in one or two limited class periods.

Social networking tools provided another strategy for active learning. Students *Women and Fine Art*, a survey course of women artists in western culture, created Facebook profiles of historical artists whose work we did not cover in the course of the semester. This course met twice a week, but the students submitted all of their work through the university's Blackboard site, and took their quizzes and exams on Blackboard as well. Facebook allowed a greater level of interaction, though. In their Facebook profile of a historical artist, they were required to address five questions:

- Who was she? (Biographical data)
- What type of artist was she? (Include samples of her work)
- What material conditions made it possible for her to be an artist?
- What is significant about her work?
- Is gender relevant to her work?

Creating the profile was only part of the assignment, though. In order to receive full credit, students were required to engage with the other students' artist profiles from our class Facebook page. They earned additional points for commenting on interesting parallels between the lives and works of their own artist and the works of other students' artists. The more they engaged with the other students' artist profiles, the more points they received. Of course the assignment taught each individual student a lot about one artist that we did not study in class, and exposed them to many others, but it also brought them closer to the course objective of seeing the many similarities among women artists in history. The Facebook project allowed students to make those connections amongst themselves, rather than through a guided reading or lecture, and to do so in an online format that they use frequently. It showed them to see the possibilities of social networking as an educational tool as well.

Twitter is another social networking tool that allows students to continue a class discussion after the 50 or 70 minute class period ends. Junco, Heilbergert, and Loken's study⁷ of the impact of twitter on student engagement and learning outcomes points out that student engagement, which is critical to student success, is measured by the following practices outlined by Chickering and Gamson:

1. Student/faculty contact
2. Cooperation among students
3. Active learning
4. Prompt feedback
5. Emphasizing time on task
6. Communicating high expectation

7. Respecting diversity

Interactions on Facebook and Twitter meet many of the criteria for student engagement.⁸ First, they increased student/faculty contact outside of the classroom. When students left class, they were given a topic or an idea related to the course to discuss on a social networking site, or they were instructed to find their own links to news items that related to the material in class. In the Twitter assignment, they were instructed to tweet 3 times a week and to comment on the tweets of other students, which made them more active learners in terms of composing a tweet relevant to the course material, and helped them to find common ground with each other. (Professors can keep track of all this data on websites such as TweetArchivist.⁹) Students received prompt feedback when the professor checked the class hashtag daily, and commented on their Tweets. They received instruction, too, on the difference between what David Silver calls “thin tweets” such as “I agree!” or “That was interesting” and “thick tweets,” which generally included a more thoughtful response, or a link to a web site, or a quote from class material.¹⁰

Students in the face-to-face classes who used social networking tools such as Twitter and Facebook increased the depth of their learning and developed strategies for social networking tools that went beyond simply socializing and became learning tools. As R. Junco et al point out in their own study of Twitter in the classroom,

Using Twitter produced a more rich discussion of student’s relationship to themes covered in the book than would have been possible during the limited class time. Twitter allowed us to extend conversations in ways that would not have been practical during the hour-long class sessions.¹¹

They note as well that the Twitter assignment promoted active learning, which is something we see again and again when we employ various technologies in the classroom. They explain, “the Twitter assignments promoted active learning ... by helping students relate the course material to their own experiences both inside and outside of the classroom.”¹² Students also saw the potential for social and political change with these tools as well; in fact, in one course students frequently posted tweets with links to news sources about how Twitter is used to protest, debate, raise consciousness, and spread political and social ideas.

We developed new courses that benefitted from the tools and strategies developed in online courses as well. In *American Beauty: Questioning & Challenging the Standards*, the entire course devoted to the examination and critique of women’s image in popular culture outlets such as film, television, advertising, music, the internet and literature. As students learn how race, gender, and class influence how woman and girls are represented in popular

culture they critique and come to understand how the technology is both the facilitator and the problem. One student observed:

I learned a lot about how women are sexualized in all sorts of media. I realized it was happening but I didn't know just how rampant it was. Now I look advertisements and music videos in completely different ways.

One symbol of popular culture that has been both loved and criticized is Barbie. She is studied extensively in this course through academic articles, the documentary film *Barbie Nation* and discussions. She exemplifies an example of a mass-produced, low-tech, popular culture icon and plays a starring role in students' final course project. In addition to a research paper students modify the mass produced image and assembly-line body of Barbie to challenge the cultural expectations of women. The response to and outcome of this activity has been both creative and educational:

I think I probably enjoyed the final project best. I really had a lot of fun creating the Barbie dolls. I also enjoyed all that I learned through my research...I learned more than I ever thought possible about media and the way it has shaped our society. As a female, realizing all of the bad things the media has done, struck a chord. This class taught me to love myself, and to be educated.

Over 100 modified Barbies have been donated to the professor who is currently working on a public art display to share with the community and further the ideas taught in the classroom.

The original course *Gender and Popular Culture* continues to influence new course development. Two recent courses, *Women, Girls & Technology*, taught as a hybrid and online course, and *Digitizing Women: The Great Divide*, a face-to-face course taught in a global learning collaboration between UTEP and the Department of Latin American and Latina/o Studies at John Jay College of Criminal Justice in New York, reflect scholarly articles and assignments inspired by the material *Gender and Popular Culture*. The critique and use of familiar and new technologies are the heart of the two new courses and have made an impact on students during the wintermester session this year:

There is so much that I have learned from this course. Every topic that we covered I learned a great deal. If I had to sum it up I would say that I am shocked to know about how technology is oppressing women. As a woman in the US it has become clearer to me. To see what is happening to women because of technology on a global scale has been a shocking and horrific eye opener.

Students in both of these courses research the effects of technology on women and girls, create an *iMovie* presentation and demonstrate the use of a new

technology to bring awareness to, advance or promote issues affecting women and girls in popular culture and technology. Their assignments encourage them to explore the critical construction of technology and digital culture and how it impacts women and girls, and to utilize established and emerging technologies available not only for critical analysis, but to also use as tools to create and enhance student work.

In *Women, Girls & Technology* students explored the critical construction of technology and digital culture and how it impacts women and girls. In addition, they learned about emerging technologies not only for critical analysis, but to also use as tools to create and enhance student work. Groups of three to five students were formed to conduct research over a topic related to technology and women such as how the internet is used for social networking, online dating, or mail order brides. Based on their findings students created a short film using iMovie to present their research and identify a new technology that could be used to bring awareness to, advance or promote issues affecting women and girls.

Some of the options of technology that students learned about and incorporated into their research included virtual worlds such Second Life, augmented reality such as Layer, new social networking sites other than Twitter or Facebook, gesture-based technology, and gamification. By the end of the semester students learned about important issues surrounding women and girls and had the technological skills to educate others.

When asked how these assignments affected their learning, students wrote these two comments:

This course being about women and technology hit right at home being a female. Learning and reading about all the different stories and discussions we had in this class really opened my eyes to what is the reality of women in the world. All this information was interesting and entertaining and really caught my attention. I learned about women overall in the work field, in the media, in regarding sex, love and violence, etc. that really impacted my life in me getting a better understanding of what the true reality is and needing to make a change.

Even though I have always knows there is a lack of women in the fields of technology, it was very surprising to see why that was. I did not realize that the Internet used women as materialistic items such as mail order brides. It has totally changed my view on how technology has affected so many women in particular all over the world.

Digitizing Women: The Great Divide is currently being taught as a global learning community between the Entering Student Program at UTEP and JJC. Students are working on a similar project as designed in *Women, Girls & Technology* but they are collaborating in groups with students over 2,000 miles away. The design of their final project also includes the completion of

electronic campus surveys, the use of a collaborative discussion board via a private social networking site called *Ning*, writing a research paper and creating a short film to present their findings. In addition to collaborating via the *Ning* site, teleconferencing is used to visit each classroom in El Paso, Texas and New York City. Though the outcome of this course is yet to be determined, the process thus far has been challenging, educational, and engaging for both the students and the professors.

To conclude, we should add that we did not create these strategies alone. At UTEP, designing an online class is a finely-tuned procedure facilitated by Academic Technologies. An online academy and Blackboard training are required for anyone who teaches hybrid or fully online courses. Professors are trained in basic use of the technology, design the courses with feedback from AT, and are required to give a rationale for every element: the modules, the readings, the assignments, quizzes, and discussions, and the links to videos and other online material. Designing a course with a rationale in mind for each task means that sometimes we eliminate activities that seem interesting but have little relevance to the course objectives. Students are able to see the justification for each task as well, and consider how the assignments are designed to meet the course objectives.

Faculty meet together often to share the best practices of online courses. In these informal meetings, we observed that the least effective courses, measured by as student attrition rates, student evaluations, and the expertise of other faculty teaching online, were those courses that duplicated the in-class lectures without the class discussion or shared experiences of learning in the classroom. Online courses in which students simply read the textbook and answered guided questions, or worse, read power point slides or a set of lecture notes made online courses seem dull and uninspiring. In the less effective courses, faculty created assessments that were simply objective-style queries, emphasized rote learning, and drills, and course design showed a general failure of imagination.

The best courses were those that exposed students to a variety of materials: images, sounds, videos, interactive examples, audio files, and visits to websites based on the material. Of course, this is what we do already in a humanities course: study, examine, and analyze culture through old and new media, including music, fine art, recorded history, prehistoric icons and images, literature, material culture, film, television, and architecture.

Our collaborative work in the online *Gender and Popular Culture* course enhanced not only that course, but many of the other courses we teach as colleagues. The transformation of all of our courses and the ways in which students report increased learning suggests that the online format offers many tools and strategies to increase learning, and to promote more active engagement in the classroom.

Notes

¹ hooks, bell. *goodreads*. n.d. quote. 12 February 2013.

² Some initial survey data at UTEP supports this conclusion. Teresa Quezada and Lee Ann Westman surveyed students at UTEP who had completed both online and face-to-face courses to ask them to rate their learning in both formats. 51% felt they learned more in the face-to-face format because the professor is there to help them. The students were also quick to point out the added workload of the online course, but 25% attributed the fact that they had to do more of the work themselves as the reason they learned more in the class. This data is, as yet, unpublished.

³ To view samples please visit: <http://vimeo.com/33388706> and <http://vimeo.com/33383649>.

⁴ *Demand*. Dir. Shared Hope International. 2005-2006. Documentary.

Pretty Woman. Dir. Garry Marshall. Perf. Richard Gere and Julia Roberts. 1990. Film.

Prostitution in America. Dir. ABC News. Perf. Diane Sawyer. 2008. Investigative Report.

Taken. Dir. Pierre Morel. Perf. Maggie Grace and Famke Janssen Liam Neeson. 2008. Film.

The People vs. Larry Flynt. Dir. Miloš Forman. Perf. Courtney Love, and Edward Norton Woody Harrelson. 1996. Film.

The Price of Pleasure. Dir. Miguel Picker and Dr. Chyng Sun. 2008. Documentary.hooks, bell.

⁵ This module is organized around Jane Caputi's article, "The Pornography of Everyday Life" in Dines, Gail and Humez, Jean, *Gender, Race, and Class in Media: A Critical Reader*. Los Angeles: Sage, 2011.

⁶ Kilbourne, Jean, Sut Jhally, and David Rabinovitz. *Killing Us Softly 4: Advertising's Image of Women*. Northampton, MA: Media Education Foundation, 2010.

⁷ R. Junco, G. Heibergert, and E. Loken, "The Effect of Twitter of College Student Engagement and Grades," in *Journal of Computer-Assisted Learning*, Blackwell Publishing Ltd, 2010.

⁸ For more information about teaching with Twitter, see <http://chronicle.com/blogs/profhacker/practical-advice-for-teaching-with-twitter/26416>

⁹ www.tweetarchivist.com will keep track of every student using your course hashtag, as well as share information about tweet sources, frequently used terms, and volume of tweets over time.

¹⁰ <http://silverinsf.blogspot.com/2009/02/difference-between-thin-and-thick.html>

¹¹ Junko et al, "Twitter and Student Engagement," 10.

¹² *Ibid*, 10.

What war looks like: students present moments of historical crisis using primary sources and digital textbooks. Be careful what you ask for.

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History textbooks may be the most prototypical—if not most notorious—example of static, one-size-fits-all learning. For most of their existence, textbooks in the United States have signaled that there is one true history and one best way to teach it¹ Students in U.S. history classes have often been encouraged to memorize key learning through a hodgepodge of facts, dates, battles, and seemingly key individuals who are typically older white males with European roots. The stories and relevance of these men, typically packaged into pat, authoritative-sounding historical tropes, are increasingly far removed from today’s students living in the United States. In these printed books, dominant ideologies and perspectives reign supreme, as other views—notably those held by marginalized groups—are often relegated to sidebars.²

However, professional historians, rarely proponents of textbooks,³ rely on “historical reading and thinking”⁴ as a way to consider and understand the relationships of peoples and events in the past.⁵ They search for evidence among primary sources, carefully consider the authors and creation of these sources, and work to contextualize the material, situating it and its events in time and place. Ultimately, historians search out, if not embrace, the messiness inherent in efforts to make sense of the past. Nor do they blanch at the rawness and ugliness of war.

What happens when students from a California public high school try to adopt the approach of historians using the affordances of digital textbooks? When given such a task, what does war look like from their viewpoint? We examine here how technology might help students value and access primary-source documents to broaden their historical understanding, expand their disciplinary skills, and explore multiple perspectives regarding war, defined here as a state of armed violent struggle between states, nations, or groups.

With primary-source material from the Hoover Institution Archives, the U.S. National Archives and Records Administration, and various online archives from around the world, ninety-six students set out to unearth and present historical narratives that went beyond their textbook, *World History: patterns of interaction*,⁶ a leading high school text in the United States.⁷ As content creators and authors of history, the students produced seventy-three digital textbook chapters, totaling 433 pages. These pages contain a combination of text and interactive features “published” through iBooks Author to iPads for peer review and in-class presentation. The student-authored digital chapters map to the California state standards for topic and grade level.

The printed textbook, a hefty five pounds of 1,250 pages, begins with “Prehistory–2500 B.C.” and concludes with “1960–Present.” In any book, that is a great deal of history to cover; comprehensiveness must rely on judgment. Which wars are included and which are left out? What voices emerge and which go unheard? Using technology, students answered these questions differently from their printed textbook. Based on the digital pages that they created, we outline the students’ efforts at authorship as seen through the lens of war.

Of students’ digital pages, 106 dealt specifically with war. Moments of historical crisis such as the Cold War and topics along the lines of “colonialism” were excluded, as they did not necessarily involve armed conflict. Another seventy-three pages addressed organizations, pacts and plans, and the social impacts associated with conflict (e.g., the United Nations, the Marshall Plan, and the material costs of World War I), as well as the causes and outcomes of particular conflicts (e.g., nationalism and poverty). Glossary and reference pages were not included in page counts for war-related content. In all, 42 percent of the students’ work dealt with a state of armed struggle between states, nations, or groups.

A textual analysis of the students’ digital chapters demonstrates their writing and presentation of war through multiple perspectives and the affordances of digital-authoring tools and digitized source material.⁸ When asked to construct a chapter of a digital history textbook, do students recount the traditional U.S. textbook script of battles and high-tech weapons, or do they expand those approaches to include multiple perspectives and previously muted voices in a way that might suggest deep critical thinking? In considering these questions, this paper highlights a small portion of a larger, still emerging research effort and builds on the quantitative findings, content analysis, and curriculum-focused results of Molly Bullock Zieleszinski, Jeremy David Jimenez, and Paul Franz, members of the core research team.⁹ The design-based research¹⁰ presented here—a brief look at students’ historical accounts of war in a collection of chapters from a larger digital textbook project—does not purport to make any quantitative or generalizable claims regarding actual student engagement, learning, or thinking. We offer, instead, one small window into an intervention designed as a proof-of-concept for bringing

digital book-making tools and digitized primary sources into the classroom with the hope of fostering and complicating emerging, historical thinking.

This paper presents theoretical frameworks for such an effort, as well as an argument for using digitized primary sources and authoring tools in the classroom. The paper then explains the process of historical thinking through a consideration of war-related content, as well as the use of software-based templates to ease—albeit with a tradeoff—digital book-making. In the end, this paper highlights lessons learned, which may be applicable to both researchers and educators seeking to engage students as content creators using the affordances of technology, digital archives, and as the hoped-for next generation of critical thinkers.

Incorporating pedagogy and technology for historical thinking in the classroom

The research presented here builds on a theoretical framework that coincides with how teachers are increasingly finding and using online archival resources and digital technology to allow students to become authors and producers of content.¹¹ For some, this is a natural progression from the teacher as “sage on stage” to the teacher as guide and coach, willing and able to steer students toward engagement through the use of primary sources and technology.

The approach springs from “pedagogical content knowledge” (PCK),¹² which stresses the complexity and interconnectedness of content knowledge and teaching strategies. “Technological pedagogical content knowledge,”¹³ which adds technology to PCK, is also key.¹⁴ The history teacher wanting to incorporate PCK with the use of technology into student class work needs first to identify compelling primary sources and guide students in finding them and recognizing their value on their own. The teacher then needs to structure students’ analysis and use of the sources, allowing technology a role. In the case of digital textbooks, such a role can include learning to use new computer equipment, software, and content-management tools. When successful, such an effort creates a promising intersection for content, pedagogy, and technology—a sweet spot, for both teachers and students alike, that encourages learning, disciplinary skills, critical thinking, and engagement.¹⁵

Historical thinking, discussed in greater detail in a subsequent section, provides the overarching framework for extending the skills and approach of historians to students. The process of historical thinking stresses knowledge in action: students are tasked with seeking out and constructing historical knowledge and understanding through the sourcing, contextualizing, close reading, and corroboration of primary sources.¹⁶ Ideally, students learn to read primary sources critically, enabling them to construct historical narratives about war in a demanding and discerning way.

An argument for digitized primary sources in the classroom

As Daisy Martin and Sam Wineburg have pointed out, U.S. educators and students are “awash in a digital deluge.”¹⁷ For more than a decade, educators have been working to bring primary sources into the classroom.¹⁸ For their part, archives, museums, libraries, and universities continue to make primary sources available online. However, questions remain around how digital technology might make these resources more usable and how the Internet’s ever-growing digital archives might come to inspire students to use them.¹⁹

As researchers have long argued, there is a need for historical documents and artifacts to engage both the minds and emotions of students if these resources are to improve student understanding of their content and associated historical moments.²⁰ Critical thinking (not discipline specific) and historical thinking (discipline specific) may be ways to address this need.²¹ As Wineburg writes, document-based reasoning—the use of primary sources to suss out multiple perspectives and conclusions—offers students a way to ease the tension between the paradoxical “familiar and strange of history.”²² Such an approach can engage students in the process of sensemaking and replace the traditional static learning approach.²³ History, Wineburg explains, *should* feel uncomfortable and intriguingly so. Digital archives have the potential to put this feeling closer at hand.

Yet, traditional history textbooks—built on the “classic historicist stance”²⁴—often play to young people’s instinct to make the past familiar, luring them into “a false sense of familiarity.”²⁵ Furthermore, traditional textbooks can hamstring educators when it comes to teaching historical thinking. Textbooks’ authoritative style, seeming objectivity, and occasional efforts to include primary sources as end-of-a-section and back-of-the-book “extras” offer students a model—often their only model—of what “good” and valid historical content looks like.²⁶ While historians have long complained about the tyranny of the textbook, teachers report having few easily-at-hand alternatives, particularly when faced with state-mandated textbooks and standardized tests that allow little time to deviate from test preparation.²⁷

While there is hope that digital books may offer a way forward, current digital textbooks offer little more than repurposed text, moving images, flashcard-making widgets, and other niceties. Using these books may add little to a student’s learning experience or a teacher’s toolset. More than superficial digital bells and whistles are needed for this to happen.

Student-authored content has, in fact, been documented to encourage engagement.²⁸ When coupled with the use of primary sources as core to this content-creation effort, disciplinary skill and an understanding around the value of multiple perspectives can emerge.²⁹ Thus, with this research, there is the hope that students—put in control of selecting primary sources, writing narratives, designing layouts, and then presenting their work to peers—might experience some level of increased engagement as compared to their experience with a traditional world history textbook.

An approach for digitized primary sources in the classroom

The combined use of digitized primary sources and historical thinking in the classroom remains far from widespread, with barriers to use such as lack of training, lack of equipment, lack of easy access to primary material, and a teacher's pedagogical beliefs.³⁰ For instance, researchers have found that high school history teachers actually used web-based primary source materials less than textbook-based primary sources (i.e., those included in appendices).³¹

Incorporating historical thinking and technology in classrooms requires practice by both teachers and students. Fortunately, the research team worked with a teacher skilled and eager to use both. Most notably, this master teacher was already trained in the use of historical thinking. Both independently and within a high-performing charter school³² (in terms of state standardized tests), the teacher, in his own words, prioritized innovative classroom curriculum that could disrupt the patterns of demotivation in struggling students.

The process of historical thinking

Working with the teacher, the research team developed a curriculum for students to incorporate historical thinking into their digital textbooks, based on material from the Stanford History Education Group (SHEG) and, again, the California state history content standards. The curriculum included how to use iBooks Author, a basic digital book-making program, and MacBook Airs and iBooks, equipment provided by the research team for use during the intervention.³³

Historical thinking skills, as spelled out by Wineburg and SHEG, require students to source, contextualize, read closely, and corroborate a primary source.³⁴ For the process of sourcing, students must identify the author's position regarding a historical event, as well as identify and evaluate the author's purpose in creating the artifact. Before reading or looking at an artifact, students need to "predict" what the author might say, write, or show, as well as evaluate a source's believability and trustworthiness based on the genre, audience, and author's purpose. For contextualizing, students are to rely on the background information of an artifact to cull further meaning from the artifact. They should also be able to infer historical context and recognize that any artifact reflects only "a moment in [the] changing past."³⁵

Digital scaffolding

The task and process of fostering historical thinking and perspective-taking requires time, practice, and primary sources. Digitalized artifacts can ease this process, but they can also overwhelm students by their number and complexity. The research team looked for ways to lessen the technical process and time required for making a digital textbook chapter, so that students could

focus on critically assessing these sources. The team created a curated digital library for the project, which supplied the teacher with confidence and students with parameters.

With 300-plus links to source material and organized by California state standards, the digital library highlights top-tier resources for digitized artifacts from across the Internet. Included are links from the Cambridge Digital Library, the Hoover Archives, the National Library of the Netherlands and the Museum Meermanno-Westreenianum in The Hague, the U.K.'s National Archives, and the U.S. National Archives. The digital library includes a unique collection of international textbook excerpts (obtained primarily from the George Eckert Institute for Textbook Research in Germany). These excerpts allowed students to develop a more pluralized presentation of multiple perspectives through a variety of international "voices." Included among the primary sources digitized are a Vietnam anti-U.S. propaganda poster, an Afghan document warning children away from landmines, and a graphic Japanese post-World War II children's book showing the effects of the atomic bomb. All primary sources and links were accessible through Google Docs. Still, students had the freedom to select artifacts from outside this gardened resource. In fact, many students simply turned to the Internet, notably (and unsurprisingly) to Google Images and Wikipedia.

Another way the research team worked to ease students' efforts was through the use of digital templates. Developed by the research team, the templates were designed to temper the novelty of new software, laptops, and iPads for digital book-making against the offline task of critical thinking. The templates included elements of a typical textbook: headlines, subheads, columns of text, and sidebars. In addition, they included prompts for using the various affordances of the digital platform: scrolling sidebars, thumbnails that toggle between digitized primary sources, images with callouts and extended captions that move when touched, and photo galleries, among others.

Both the research team and the teacher recognized the difficulty and limitations of the task: under significant time restrictions, students were asked to use both new tools and new skills. We also asked them to go deep in their thinking about war. The curriculum, as first designed, was intended to cover fourteen days of rotating 60- and 90-minute class sessions. However, the scheduling necessities of state standardized testing required that the curriculum fit eight days of class, with some sessions cut to 30 minutes.

The look of war

At a glance, the students' chapters *look* like those from a traditional textbook. There are blocks of text underneath headlines and images with captions amid seemingly static scrollbars, embedded videos, and occasional 3D objects. While students were given the chance and encouragement to deviate radically from the templates or entirely scrap them, they were not necessarily given adequate time or confidence building to do so. As many writers would

attest, the blank page can be intimidating. To have given students only blank pages from which to build seemed far too ambitious to include within the scope of the project. Additionally, the trope of the textbook is strong, already embedded in emerging technical tools. The software itself (iBooks Author), while free and easy to use, encourages anyone who uses it to hew closely to the look of the printed book. In fact, one of iBooks's built-in templates is called "classic textbook."³⁶ The option was not lost on students. Many embraced this template as an example of "good."

Yet, close consideration of the students' digital chapters and their presentation of war reveals their work to be different from their traditional world history textbook. The students' chapters are indeed digital—portions move, emphasis changes with a swipe of the finger, and through embedded video, pages speak. More intriguing is that students saw war differently from how their textbook presented it. While the topic of war allows for vast variation in content and treatment, student-generated motifs and perspectives about war surfaced. The following highlights some of the more provocative student work, as well as the typical, and considers it in relation to the students' traditional textbook. For the students who participated in this research, this is how war looks.

War is human

On page 958 of *World History* comes a spread with primary sources. Titled "The Human Cost of War," the pages fall into what can be considered the ghetto of most textbooks—the end of a long chapter or section, an "extra" unlikely to be required reading or to appear on a test. In this particular case, the spread appears after a 122-page section about "The World at War, 1900-1945" and two pages of "standards-based assessment." Text framed in a red box suggests that the use of primary sources is "interactive." Yet, there are no suggested links or pointers to content or digital archives on the Internet. Rather, "interactive" is to be taken as intellectual engagement through suggested primary sources on the printed page. There is little to pull in readers. All but one of the seven headlines for the primary sources are two-word labels: "Military Cost," "Trench Warfare," and "Atomic Bomb." There is one graph ("Military Casualties, World War I and World War II") and only one image. Also included is the headline, with the familiar refrain of so many high-school textbooks: "Comparing & Contrasting." Certainly, the use of a gerund is a twist to the more typical "Compare & Contrast." Still, these two pages seem destined to garner less than a glance from students. The primary sources appear as blocks of text, less "real" looking than those sources used by the students when making their digital textbooks. The book offers text-based primary sources that have been re-typeset and presented on clean pages in a serif font. These documents may fall under the rubric of primary source, but they do not look like primary sources, particularly those found in an archive.

Of the five primary sources illustrating “The Human Cost of War,” four are short excerpts (roughly 150 words each), completely removed from their primary-source context. Students do not see British sergeant major Ernest Shepard’s diary from the first day of the Battle of the Somme. What might a document that survived such a fight look like? Any traces of blood, sweat, and tears? Equally sparse is the text of an unnamed U.S. Marines correspondent describing the Battle of Iwo Jima. The type of document that he was writing—a personal account, notes for a story, or an official military report—is unclear in the reprinted version. Was the reporter pounding out news releases on his portable typewriter at the edge of a foxhole or were his missives written in pencil and on gum wrappers? Shouldn’t the answer tell us something? Shouldn’t it make us think more curiously if not more critically about the historical moment from which it comes?

The spreads highlighting primary sources are in contrast to the rest of the book. Text dominates, but the book includes hundreds of illustrations, graphs, maps, and photos. The dulling down of primary sources, particularly in regard to war, is striking. In their natural state, the artifacts are fascinating, natural lures. Digitized primary sources may not capture the smell or feel of an artifact, but they do reveal them in their context. Those who stop and look can still see the smudges and scars of use. With digital tools, they may even have a zoom option for closer inspection and richer analysis.

With this research project, students favored digitized artifacts in their original form. Their selection of primary sources showcased the visual and human aspect of the material. Pages from their digital chapters suggest a “seeing is believing” approach. In one case, student-authored content about the French Revolution includes a digitized image of a well-worn “letter, from a British Ambassador to the British government [detailing] the monarchy’s perspective on the Storming of the Bastille...” Next to the yellowed document, in a secondary role, is a transcript of the text. The letter, with its ink-blotted script, seems authentic in a way that the traditional textbook’s reprinted excerpts do not. So too does the typewritten document stamped “SECRET” and downloaded from the National Diet Library of Japan that another student uses. With staple holes blighted by rust marks, the World War II document seems genuine, while the re-typeset primary sources do not. On the page of his digital chapter, the student explains, “This is a secret memo from U.S. lawyers demanding that they [the Japanese] include certain rights” during “the process of demilitarizing Japan [...] and it also shows we had a secret.” [...] Readers might be curious to read more than a 50-word analysis by the student; however, the entire primary source document is made visible in its original form, something rarely seen in the textbook’s pages. Such documents reveal students’ instinct not to sanitize artifacts. Rather, students show efforts to highlight the human touch, often still visible.

War is raw

An element of “rawness” in its literal form (as in, not cooked, treated, or sanitized) surfaces in the student-authored chapters. This is something not seen in the printed textbook. Consider, for instance, the opening spread to the section, “The World at War.” A thirty-one-word caption overlays a painting, in muted earth tones, by François Flameng. The caption reads, “World War I was characterized by long, bloody battles. This painting [...] shows one such engagement.” Yet, there is no blood. Nor battle. A troop of soldiers, hunched over, move away from a smoky gray backdrop. There are no attackers.

Likewise, the spread that follows, “The Human Cost of War,” offers little that might be concrete or visceral in its presentation of war’s destruction of human life. It includes only one image, a roughly four-by-five-inch photograph taken from afar. The picture shows a line of forty or so Japanese Americans standing near a train and across from a line of U.S. military men. The faces of these men cannot be seen, but they seem at ease and without visible weapons. There is no date, place, or source associated with the image. Yet, it is highlighted as a primary source and appears below the question, “Judging from the photograph, what was the government’s attitude toward Japanese Americans?” Such a remote, almost vague image offers little to build on and encourages banal descriptions or mere guesses (i.e., “the government stands in opposition” and “military personnel have power over regular people”). The textbook’s question may be thought-provoking, but the primary source feels flat and faraway.

In contrast, the student-authored chapters jump right into the action of war, taking an up-close and in-your-face approach. Consider, for instance, one student’s treatment of the Nanking Massacre, a mass killing of Chinese by the Japanese Imperial Army in 1937. Also known as the Rape of Nanking, the attack was part of the Sino-Japanese War, which continued until 1945, the year World War II ended. Neither the attack nor the Sino-Japanese War is addressed in the printed textbook. The student, nonetheless, dedicates four pages to the Rape of Nanking, including graphic images and video from the massacre.

The student writes, “The rape of Nanking was one of the biggest atrocities to have ever happened during WWII.” To support this statement, he shows a grainy, black-and-white photograph with a pile of naked, “slain Chinese babies [...] killed by the Japanese invaders, after [the babies] were brutally raped by either their parents, or the soldiers themselves. The soldiers would force parents to rape their children.” Britannica Academic Edition, a reference students used occasionally, also reports of such brutal attacks, explaining that “Japanese soldiers carried out [...] orders, perpetrating numerous mass executions and tens of thousands of rapes.”³⁷

The student also includes an image of two Japanese men saluting. Through multiple-perspective-taking, the student tries to make sense of how “the Japanese invaders” could partake in the massacre:

This picture represents a soldier receiving orders from his officer. Their perspective in *The Rape of Nanking* could be seen as obeying their country, and doing what they're told, otherwise they could risk punishment from their unit. Imagine being in the shoes of the soldiers at this time, and what might happen if you're forced to do something you are uncomfortable with, and if you don't do it what you might have to face. That is what the soldiers were confronted with day after day.

The student does not source his information directly, and in fact, the sources he includes on the reference page are far from ideal. Most notably, the student relies on a self-described “history and military blog” that lacks attribution and credentials. Nonetheless, his effort is promising because it offers a voice of the historian organizing the material presented.

The military blog references the work of American historian and journalist Iris Chang. Her best-selling *The Rape of Nanking: The Forgotten Holocaust of World War II* was, in 1997, the first book-length nonfiction account of the event. Chang's polemical book is considered controversial and not without mistakes. Yet, as Orville Schell, a China scholar and former dean of the University of California, Berkeley, and Graduate School of Journalism wrote, Chang's “important” book “recounts the grisly massacre with understandable outrage.” He adds that “[t]he West's failure to focus on the Nanking Massacre is perhaps explained by the advent of the Cold War, when our alliance with Japan was forged alongside a growing hostility toward China.”

The student misses the opportunity to source Chang directly. This is unfortunate, as Chang's papers and collected material, including recordings and transcripts of interviews, photocopies of government records, and audiovisual material on the massacre, are housed at the nearby Hoover Archives. The archive's website also offers additional information about Chang and the massacre. Had the student directly examined Chang's work, his digital chapter might point in a more historically accurate direction.³⁸ Still, the student channels Chang's outrage and joins in an effort to correct a Western failure of omission. This is a step ahead of the student's textbook.

Nonetheless, the student takes a cue from the likes of The History Channel and Hollywood. He embeds a video, downloaded from www.horropedia.com. The student explains that the embedded video is “a reenactment of parts of the horrific events of the Rape of Nanking. Some actually real footage, but mostly reenactments.” His assessment is accurate. The 2-minute clip includes 40 seconds of “real footage.” The remaining video comes from *Black Sun: The Nanking Massacre*, a 1994 Hong Kong “shockumentary” film that includes beheadings and other graphic brutality.³⁹ The film is not as artful or polished as *Schindler's List*, the 1993 American film about the Holocaust and now a history-class staple. However, *Black Sun* falls into the same historical drama realm.

Michael André Bernstein identified what he called the “*Schindler’s List* Effect,” in which commercial films become “a plausible backdrop” for invoking emotion not history. Bernstein points to Claude Lanzmann’s “devastating phrase, ‘fabricate archives,’” explaining that such films have affected the way our culture “understands, historically orders, and teaches.”⁴⁰

The student’s use of *Black Sun* reveals an effort to stretch the “plausible backdrop for invoking emotion” into the digital realm. His pages, as well as those of his peers, suggest a clear intention to invoke a strong mix of emotion and history, with emotion at the fore. The student’s work, though slick in appearance and reliant on the affordances of technology, does not reveal a strong effort at historical thinking. Rather, his chapter shows the efforts of a director at work on a script based only loosely on a true story. His inspiration comes from Hollywood, not history and certainly not from the archives.

But as the work of Chang and others suggest, history without Hollywood can provide shock and horror. In fact, it is the archival footage of *Black Sun* that makes the film excerpt seem both real and notable. As historian Robert Darnton wrote, “We constantly need to be shaken out of a false sense of familiarity with the past, to be administered doses of culture shock. There is no better way [...] than through the archives.”⁴¹ The question is, how as educators can we encourage students to tap into the archives in a way that mines and surfaces culture shock?

The Rape of Nanking may not make the pages of *World History*, but it appears throughout various digital archives found on the Internet, from the Special Collections of the Yale Divinity School Library to the Memory and Reconciliation in the Asia-Pacific Project at George Washington University.⁴² Students and teachers will need time and encouragement to consider sources, their authors and their motives, critically. As they increasingly come to rely on the Internet for their access to archival material, they will need encouragement to keep to the rawness of the archives and resist the *Schindler’s List* Effect.

War is full of -isms

On the opening page of a chapter about World War I, a poster appears with the words, “Save Serbia Our Ally.” In a box underneath, the textbook asks, “Should you always support a friend, no matter what he or she does? What might be the long-term consequences of refusing to help an ally?” An effort to make the strange familiar, these questions seem far removed from the following page and the action in the poster—military men with bayonets. The latter, titled “Marching Toward War,” considers the rising tensions in Europe. Humans, friend or foe, are no longer mentioned. The culprits throughout the chapter are the -isms, specifically “nationalism,” “imperialism,” and “militarism.”⁴³ While such -isms can be used to show multiple perspectives, they surface viewpoints on a macro rather than personal level.

In contrast, the pages of the students’ digital chapters work to make -isms human. Consider, for instance, one student’s effort to tackle the causes of

World War I. After a page-long introduction to the topic, the student asks, “What most effected [*sic*] WWI Imperialism or Militarism?” This is a rhetorical question, based on both the textbook and state standards, which the student does not answer. Instead, he selects two intriguing digitized primary sources from the Library of Congress. Though illustrations, both showcase people. Within the digital chapter, the images can be enlarged and studied in detail and the text around them act as an extended caption, far more telling than the brief text typically associated with images in the textbook.

The first illustration shows a large African man leaning against a tree, asleep. The student explains, “the picture is named Sleeping Sickness” and it “was created in 1911 by artist Gordon Ross.” The African is a sleeping giant among a collection of Lilliputian men. The giant, in the student’s words, is “being tied down by different European men” “stabbing” flags around him labeled “England, Portugal, Belgium, Turkey, Italy, Germany, Spain, [and] France.” The student uses the image to show that several European countries are staking claims to portions of Africa. From that image, the student moves to a four-color print showing William II, German Emperor, sporting wings made out of swords. He is riding a large cannon being pulled and pushed by clergymen. A crowd behind the scene holds two banners: “Love One Another” and “Come and Be Saved; If You Don’t” Again, the student sources his artifact: “The Advance Agent of modern Civilization was created in January 12, 1898 by [Udo] Kepler.” The student adds,

Both artifacts represent the causes in WWI because they show the will to fight and the increase of competition during that time. [...] One of them says the rivalry of Imperialism started the War because they had to fight for more resources. Then the other one states the ambition of one country to become more stronger (militarism).

While we see clearly the voices of some countries there like Germany and some of Europe we see that the voices of the colonized countries being left. The other colonized countries had a voice left out in the rivalry between the European countries. Africa is shown, but not other countries like India, Burma, New Zealand, the Philippines, and Canada. They all had no say in what was going on during that time. [...] It is a problem that their voices are left out because we do not get to see their perspective on how the war went. They also probably sacrificed a lot or helped with the war effort, but got no credit for it.

Certainly, there is room for improvement with the student’s account. Like most of his cohort, he does not adequately source and contextualize the document. Thus, he misses the mark for historical thinking. Rather than tease

out the illustrator's perspective and possible motives or consider closely what else might have been going on at the time the artifact was created, he labels and reports. There is no effort to corroborate the artifacts with other primary sources. In fairness to the student, this is not a process demonstrated in his textbook. Nor is it a task to be mastered by the end of a brief research intervention.

Digital tools can encourage the process by easing content creation and the location and formatting of primary sources. But such tools are limited in how they can nudge students to carefully consider their primary-source choices and to dig deeper with each. The future holds the likely possibility of built-in assessments and automated suggestions and reminders designed around historical thinking. But like pop-up ads on the Internet these will have the potential to be ignored and gamed. Still, the student's effort—not far from his peers' in quality and approach—is pointed in a promising direction. Like his printed textbook and California standards, he connects the Great War to the key -ism. But unlike his textbook, there is an effort to surface unheard voices and to do so using primary sources that are both intriguing and unfamiliar.

War is bigger than a sidebar

The “History in Depth” sidebars of the students' printed textbook are odd constructions. While labeled as “in depth,” they are rarely more than several hundred words in length. There are only two in the 122-page section covering the World Wars: “Investing in Stocks” and “The Armenian Massacre.”⁴⁴ The latter sidebar, nearly one hundred words, includes a map and description of how the Turkish government treated the Armenians prior to and during World War I. The Turkish government, the textbook explains, “deported nearly 2 million Armenians. Along the way, more than 600,000 died of starvation or were killed by Turkish soldiers.”⁴⁵

A student handles the massacre with an approach radically different from the textbook's brief, matter-of-fact prose. Like the student who included a photo of dead, naked babies in his digital pages about the Nanking Massacre, this student also includes a pile of dead humans. A naked baby appears in the image, but there are also fully clothed children and adults. Again, a student shows the rawness and human element of war. When the printed textbook highlights war, the images typically include military men standing, marching, or fighting together. War is not pretty in *World History*, but it is not naked, dead and piled high.

In exploring the Armenian Massacre, the student is bolder in her language than the textbook. The headline reads, “The Violations of Human Rights and Genocide of the Armenian Citizens.” Next comes an explanation that highlights both history and emotion. The student sees World War I as the Turkish excuse “to get rid of” the Armenians, and she highlights the “dehumanizing” element of their effort:

The Turks wanted the Armenians out of their country but didn't know how to get them out, but once World War I began they were able to figure out a way to get rid of them. First it was dehumanizing and slowly it became genocide. During World War I poison gas was used against the soldiers letting them die in a very painful way.

A three-hundred-word scrolling sidebar further explains the massacre, ending with “[v]irtually none of those responsible for the genocide was ever punished.” The student then moves to compare two perspectives of the event through side-by-side images and a scrollbar. On the left of a page appear two articles from *The New York Times*. In bold type and narrow columns, the headlines read: “Armenian Horrors Grow. Massacre Greater than Under Abdul Harrid” (August 6, 1915) and “Armenians Are Sent to Perish in Desert. Turks Accused of Plan to Exterminate Whole Population. People of Karahissa Massacred” (August 18, 1915). By including these primary sources, the student shows that the Armenian massacre was not a missed moment of history. Rather, it was part of the front-page news of its time. On the right side of the page, the student embeds a scrollbar that reprints, in full, “Talaat Pasha’s Official Orders Regarding the Armenian Massacres”:

The duty of everyone is to effect on the broadest lines possible the realization of the noble project of wiping out of existence the well-known elements who for centuries have been the barrier to the empire’s progress in civilization. We must, therefore, take upon ourselves the entire responsibility, pledging ourselves to this action no matter what happens [...] In our dispatch dated February 18th, we announced that the Djemiet has decided to uproot and annihilate....”

The raw determination of the words in the reprinted primary source is striking. The inclusion of this document creates a different reading experience than the one from the textbook’s passive account. The student’s take-no-prisoners approach is fierce, and the scrolling sidebar allows her to share a primary source in its entirety. Unlike her textbook, she can go in depth through primary sources. Readers can judge her account in a way not possible with the textbook’s secondary-source and exclusively sidebar-based reporting.

Glass half empty or half full?

The printed textbook, in an effort to be expansive, has reached too far. By offering a sampling of everything, nothing is quite satisfying. The collection of sidebars and quick hits such as “History in Depth,” “Examining the Issues,” and name-your-war “Statistics” are overwhelming in their frequency and unfulfilling in their depth and signaling of important content. Such criticism is

nothing new.⁴⁶ In particular, the wisdom around efforts to cover the world's history in one book, let alone one school year have long been debated.⁴⁷ These texts are *asked* to do too much, created by committee and constrained by copyright and other elements of publishing. They are beholden to society, whose members decide what to save, archive, and elevate. So too are the tools for authoring digital textbooks.

The initial hope of this research was to offer students and their teacher the tools, encouragement, and guidance needed to recast the printed textbook into something that both engaged and helped them to consider multiple perspectives and history at a deeper level than through simply their textbook. We cannot quantify our success or failure. The results of our efforts are mixed, and greater success would have required a great deal of more time working with students.

There is cause for both optimism and pessimism. While the students' digital chapters often contrast from their textbooks in promising ways, they ultimately share a shallowness and reach for what is easily found online. Admittedly, the full potential of historical thinking was not met. In fact, it is likely that most students did not rely on the approach and the disciplinary skills needed to achieve it. Rather, they worked as reporters on deadline, looking to "found" sources—sometimes dubious, sometimes not—for their "complete" story. They cited and credited these sources, but they did not go deep. Their "multiple" perspectives often met only the baseline requirement of two from the teacher.

Encouragingly, students' efforts to recast their textbook into a digital one shows an inclination to go beyond the content of their printed book and, in particular, highlight the rawness of war. Portions of their work suggest an interest in "righting wrongs," rather than keeping quiet or repeating scripts. They even seemed to be engaged with the project, and with few exceptions, the students mastered the digital tools, both the software and the hardware with ease. Clearly, there are questions for future research. How can educators and emerging authoring tools ensure and better assess students' efforts to add depth and historical thinking to their work? How can educators help students manage a balance between emotion and history? How might students come to see that primary sources can be more "real," authentic, and engaging than a Hollywood effort at made-for-screen history?

The answers to these questions are pressing, as the digital deluge is only growing. It is forming a tsunami of primary sources headed our way. Such a swell is likely to overwhelm, but it may also offer a fresh, new expanse from which we can build beyond past constraints. Poorly digitized documents and file sizes and formats that foil use are no longer major issues. Organizations such as the Digital Public Library of America (DPLA) are making strides in collecting and sharing primary sources. Within a year of its 2013 launch, DPLA has grown to include more than 7,000,000 digitized objects, hailing from all fifty states. DPLA was a resource just emerging at the start of this research. As the organization explains, it brings "collections together in a single platform

and portal, providing open and coherent access to our society's digitized cultural heritage.”⁴⁸ Such efforts and success stories will only grow, making this an exciting and pivotal time for digital archivists, educators, and students alike. We are at a moment that can make history—all history—bigger than a sidebar and more inclusive than a printed textbook. We can, through the affordances of digital technology, even make it come alive in ways both familiar and strange.

Notes

¹ Samuel S. Wineburg, *Historical thinking and other unnatural acts: Charting the future of teaching the past*. (Philadelphia: Temple University Press, 2001), n.p.; Stéphane Lévesque, *Thinking historically: Educating students for the twenty-first century*. Toronto: University of Toronto Press, 2008.

² Ibid.

³ Richard J. Paxton, “A deafening silence: History textbooks and the students who read them,” *Review of educational research* 69, no. 3 (1999): 315-339.

⁴ Daisy Martin and Sam Wineburg, “Seeing thinking on the web,” *The history teacher* (2008): 305-319, 306.

⁵ Wineburg, *Historical thinking*, n.p.

⁶ *World history: Patterns of interaction*. Evanston, IL: McDougal Littell, 2005.

⁷ Michael P. Marino, “High school world history textbooks: An analysis of content focus and chronological approaches,” *The History Teacher* 44, no. 3 (2011): 442. As a textbook, *World history* was written by committee to emphasize a shared human experience and interconnectedness within the world. In a review of the five leading U.S. world history textbooks, Marino reports that on close examination, largely through content analysis, the textbook's content is “heavily concentrated” on Western history. Marino writes, while the text is “ostensibly devoted to the subject of ‘world history,’ at minimum, 55 percent of the pages [...] are given to discussion about European history.”

⁸ For a quantitative look at the students' efforts through content analysis, see Molly B. Zielezinski and Paul Franz, “Recasting the Textbook: Student Creation of Interactive Digital History Textbooks with Primary Source Documents,” a paper presented at the 11th International Conference of the Learning Sciences. Boulder, CO, 2014.

⁹ Ibid.

¹⁰ Ann L. Brown, “Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings,” *The journal of the learning sciences* 2, no. 2 (1992): 141-178.

¹¹ Wineburg, *Historical thinking*; David Hicks, Peter Doolittle, and John K. Lee, “Social studies teachers' use of classroom-based and web-based historical primary sources,” *Theory & Research in Social Education* 32, no. 2 (2004): 2, 13-247.

¹² Lee Shulman, “Those who understand: Knowledge growth in teaching,” *Educational Researcher*, 15, no. 2, 4-14 (1986).

¹³ Matthew J. Koehler and Punya Mishra, “Introducing TPACK,” in *Handbook of technological pedagogical content knowledge (TPCK) for educators* (2008): 3-29.

¹⁴ Judith B. Harris and Mark J. Hofer, “Technological Pedagogical Content Knowledge (TPACK) in Action: A Descriptive Study of Secondary Teachers' Curriculum-Based,

Technology-Related Instructional Planning,” *Journal of Research on Technology in Education* 43, no. 3 (2011).

¹⁵ Matthew J. Koehler and Punya Mishra, “What happens when teachers design educational technology? The development of technological pedagogical content knowledge,” *Journal of educational computing research* 32, no. 2 (2005): 131-152.

¹⁶ Lévesque, *Thinking historically*; Peter Seixas, “Benchmarks of historical thinking: A framework for assessment in Canada,” *Centre for the Study of Historical Consciousness, UBC* (2006); Jannet Van Drie and Carla Van Boxtel, “Historical reasoning: Towards a framework for analyzing students’ reasoning about the past,” *Educational Psychology Review* 20, no. 2 (2008): 87-110; Wineburg, *Historical thinking*.

¹⁷ Martin and Wineburg, “Seeing thinking on the web,” 306.

¹⁸ Avishag Reisman, “Reading like a historian: A document-based history curriculum intervention in urban high schools,” *Cognition and Instruction* 30, no. 1 (2012): 86-112; Stanford History Education Group, “Reading Like A Historian,” <http://sheg.stanford.edu/rlh>; Historical Thinking Matters, Roy Rosenzweig Center for History and New Media, George Mason University, and School of Education, Stanford University, <http://historicalthinkingmatters.org/>; David C. Ensminger and Michelle L. Fry, “A Conceptual Framework for Primary Source Practices,” *The Educational Forum* 76, no. 1, (2012): 118-128; Laurel R. Singleton and James R. Giese, “Using online primary sources with students,” *The Social Studies* 90, no. 4 (1999): 148-151.

¹⁹ *Ibid.*, 307.

²⁰ Bill Tally and Lauren B. Goldenberg, “Fostering Historical Thinking With Digitized Primary Sources,” *Journal of Research on Technology in Education* 38, no. 1 (2005); Peter N. Stearns, Peter C. Seixas, and Samuel S. Wineburg, eds. *Knowing, teaching, and learning history: National and international perspectives*. NYU Press, 2000; Reisman, “Reading like a historian.”

²¹ Carla Peck and Peter Seixas, “Benchmarks of Historical Thinking: First Steps,” *Canadian Journal of Education* 31, no. 4 (2008).

²² Wineburg, *Historical thinking*.

²³ *Ibid.*

²⁴ Wineburg, *Historical thinking*, 11.

²⁵ *Ibid.*; Robert Darnton, *The great cat massacre: and other episodes in French cultural history* New York: Basic Books, 2009.

²⁶ Avon Crismore, “The rhetoric of textbooks: Metadiscourse,” *J. Curriculum Studies* 16, no. 3 (1984): 279-296; Wineburg, *Historical thinking*.

²⁷ Keith C. Barton and Linda S. Levstik, “Why don’t more history teachers engage students in interpretation?” *Social Education* 67, no. 6 (2003): 358-358.

²⁸ Mizuko Itō, *Living and learning with new media: Summary of findings from the Digital Youth Project*. MIT Press, 2009.

²⁹ Reisman, “Reading like a historian.”

³⁰ Phillip J. VanFossen and Robert A. Waterson, “It is just easier to do what you did before...: An Update on Internet Use in Secondary Social Studies Classrooms in Indiana,” *Theory & Research in Social Education* 36, no. 2 (2008): 124-152.

³¹ David Hicks, Peter Doolittle, and John K. Lee, “Social studies teachers’ use of classroom-based and web-based historical primary sources,” *Theory & Research in Social Education* 32, no. 2 (2004): 213-247.

³² At the school, student minority enrollment totaled 65 percent, with 36 percent of students considered economically disadvantaged.

³³ For a more complete explanation of the curriculum, see Jeremy David Jimenez, Laura Moorhead, and Molly B. Zieleszinski, "Recasting the Textbook: Collaborative Creation of Digital Interactive History Texts," *The Curriculum Journal* (forthcoming).

³⁴ Stanford History Education Group, "Reading Like A Historian," <http://sheg.stanford.edu/historical-thinking-chart>.

³⁵ *Ibid.*, n.p.

³⁶ iBooks Author, Apple, last modified April 16, 2014, <http://www.apple.com/ibooks-author/>.

³⁷ "Nanjing Massacre," Encyclopaedia Britannica, Encyclopaedia Britannica Online Academic Edition (Encyclopædia Britannica Inc., 2014), <http://www.britannica.com/EBchecked/topic/402618/Nanjing-Massacre>.

³⁸ "Iris Chang's papers at the Hoover Institution Archives are a valuable resource for authors and filmmakers," Hoover Archives, <http://www.hoover.org/news/28927>.

³⁹ "Black Sun: The Nanking Massacre," Horrorpedia.com, <http://horropedia.com/2013/03/09/black-sun-the-nanking-massacre/>

⁴⁰ Michael Andre Bernstein, "MOVIES: The 'Schindler's List' Effect," *The American Scholar* (1994): 429-432, 432.

⁴¹ Darnton, *The great cat massacre*, 4.

⁴² The Nanking Massacre Project, A Digital Archive of Documents & Photographs from American Missionaries Who Witnessed the Rape of Nanking From the Special Collections of the Yale Divinity School Library, <http://www.library.yale.edu/div/Nanking/>; George Washington University: The Memory and Reconciliation in the Asia-Pacific Project, <http://www.gwu.edu/~memory/index.html>; Archives and Records Administration: Japanese War Crimes, <http://www.archives.gov/iwg/japanese-war-crimes/>.

⁴³ *Ibid.*, 841.

⁴⁴ *World history: patterns of interaction*, 908, 844.

⁴⁵ *Ibid.*, 844.

⁴⁶ Paxton, "A deafening silence."

⁴⁷ *Ibid.*

⁴⁸ "History." DPLA, accessed on April 16, 2014, <http://dp.la/info/about/history/>.

**Beyond the On-Campus Humanities Learning Experience:
A Case Study in Utilizing Assessment Tools in an Online Dance Studies
Course**

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The emergence of Massive Open Online Courses (MOOCs) has stimulated new conversations about the role of the university in higher education, causing educators to reformulate how they think about course delivery. Humanities educators are uniquely situated to handle outside pressures from the federal government, educational administrators, and the general public who often may discount the importance of a liberal arts education, particularly as online learning platforms become more prevalent. In higher education, the assessment process, by definition, is about adapting and changing to meet students' needs. The values offered by a liberal arts education are not necessarily at odds with assessment methods, particularly in the online learning environment. Online tools can be utilized to creatively document assessment objectives, providing programmatic language that allows student learning outcomes to emerge based upon the broader values of a given humanities discipline.

In this article, we will discuss a case study of an online dance studies course created by Dr. Jacqueline Shea Murphy at the University of California, Riverside, which exemplifies a wide variety of assessment tools that can be utilized by those in the humanities. It might, at first, seem contradictory to offer a dance course in an online "disembodied" medium. However, through its bridging of the fine arts and humanities disciplines, dance studies has long been concerned with problematizing that which, at first glance, appears to be disembodied. In an introduction to the anthology *Choreographing History*, prominent dance scholar Susan Foster troubles the assumption that the writing body, the typing body, the body in front of the screen is disembodied. Foster declares:

We used to pretend the body was uninvolved, that it remained mute and still while the mind thought. We even imagined that thought, once conceived, transferred itself effortlessly onto the page via a body whose natural role as instrument facilitated the pen.... Now we know that the body cannot be taken for granted, cannot be taken seriously, cannot be taken.¹

An online dance studies course extends the conversation about embodiment into the virtual world and refuses to erase the role of the body in the online classroom. Such online courses thus become fertile sites for fostering new methods and critical approaches to human culture, and their virtual presence foregrounds the continuing importance of liberal arts curriculum within the university.

Accountability through Assessment

According to the “Regional Accreditation and Student Learning Outcomes: Mapping the Territory” by Staci Provezis, research associate at the National Institute for Learning Outcomes Assessment, all six regional educational accrediting organizations are requiring accountability through the documentation of assessment results that demonstrate quality in academic programs. Because of this accountability force, more and more higher education institutions are using assessment results to improve academic programs.² By incorporating assessment strategies into the classroom, humanities faculty will be able to explain what students are being taught and to demonstrate that students have learned the material.

The foundation for successful student learning is based on the professor’s professional expression of values. Those who teach in interdisciplinary fields, like dance studies, believe their courses have value. It is important that faculty and administrators find ways to articulate what those values are, how they are being taught, what the students are learning, and the benefits for these students who take humanities courses and/or choose a humanities discipline as a major.

The student learning outcomes or objectives (SLOs) for the program or course reflect these values and are used as a guide to clarify and identify what the students are expected to learn. The task for faculty, then, is to determine how their assignments can better support their SLOs. Attention and thought should be given to how the student must progress through the material in order to show mastery of the SLOs. These activities help faculty become better at understanding and practicing assessment, reflecting on the results, and using them to develop and revise the student learning outcomes. It is by focusing on these assessment activities that faculty will find these tools useful for improving student learning.

Revisiting the outcomes for a program or making course modifications require that faculty focus their perspective on the feedback, or “data,” wherein they analyze a range of possible outcomes from their students’ work in order to evaluate strengths and weaknesses at the program and course levels. Assessment data is found in student deliverables, both direct and indirect, which can take as many forms as there are assignment types. Examples of “direct” assessment data include student performances, research papers, and oral presentations.³ Student surveys or course evaluations are sources for “indirect” assessment data. Direct and indirect assessments provide a window into the student experience, and faculty who observe what their students demonstrate through their student work and/or opinions are well-positioned to make critical changes in their approach to the classroom and/or to their programs.

Determining the difference between grading student work and using student work to determine the strengths and weaknesses in the learning process is one of the most difficult components in the assessment process. “The goal of grading is to evaluate individual students’ learning and performance,” while “assessment goes beyond grading by systematically examining patterns of student learning across courses and programs and using this information to improve educational practices.”⁴ Focusing on the learning processes is central to establishing an effective learning culture that addresses various methods the faculty can utilize in order to improve student learning overall. Both quantitative and qualitative assessment measures, especially when used together, offer valuable feedback⁵ for instructors interested in mapping student learning outcomes against curricular decisions.⁶

Reflection is one hallmark of the assessment process. “Closing the loop” is a phrase often used when describing the assessment cycle to explain how faculty use the evidence they gather to improve some aspect of their courses or programs. When critics from outside of the classroom call for “accountability,” faculty are often asked to discuss their pedagogical practices regarding student and program learning outcomes, the methods they are employing to identify potential problems, and how they are creatively addressing them based upon a consideration of what their students need to improve the learning experience.⁷

Online humanities courses designed and presented in the exact same manner as on-campus courses are not usually successful. Assessment, whether online or on-campus, involves identifying, teaching, evaluating, documenting, and improving student learning. Online humanities classroom assessment tools may differ from the on-campus humanities assessment tools, but the student learning outcomes remain the same. When adequately and specifically prepared to use online tools, faculty can communicate creatively and effectively with online students, facilitate their coursework and manage the online classroom. Knowing the learning management system, designing and structuring the course for student engagement, and deciding how to assess student learning prior to teaching online courses are vital determining factors in gauging how much students will learn in the online environment.

The online classroom offers many unique opportunities in assessing student learning. The online assessment toolbox can include such tools as rubrics, drop boxes for assignments, bulletin board discussions, chat rooms, portfolios, surveys, and quizzes. Faculty may collect assessment data from a variety of methods/artifacts used in the online classroom, including lectures or presentations; research papers; pre/post-tests; group projects and presentations; case studies; written and oral exams; online guest speakers and presentations followed by discussion and question and answer sessions; clinical evaluations; hands-on learning simulations and assignments; and portfolio submissions. In what follows, Michelle Summers, who served as a teaching assistant for the *Dance: Cultures and Contexts* course offered by the University of California Online educational initiative, offers some insights into tools that support effective assessment.

Dance: Cultures and Contexts – A Case Study by Michelle T. Summers

As a teaching assistant for *Dance: Cultures and Contexts* offered by the University of California Riverside's Dance Studies Department, I had the opportunity to teach this course three times and, therefore, possess first-hand knowledge of the experimental and dynamic assessment tools utilized in this online environment. The original online course model was created, designed, and developed by Dr. Jacqueline Shea Murphy and first offered on the web in the Fall Quarter of 2012. Under the creative and academic direction of Shea Murphy, the course was designed and adapted to meet student learning needs by a team that included instructional designers Kathy Zellers, Reina Galanes and Ava Arndt; technology lead Kirk Alexander; and TAs such as me and Natalie Zervou. This course was created and designed to fulfill the UCR Humanities Breadth Requirements under the Fine Arts heading and has been made available, on one occasion, to all students within the University of California system. While other course designs of *Dance: Cultures and Context* are available as on-campus classes at UC Riverside, Shea Murphy's design for the online platform reimagines how the class's objective—to introduce students to the study of dance as an academic subject—can be achieved in an online environment. The course's student learning objectives, as conceived by Shea Murphy, seek to:

- 1) Understand a specific dance form in terms of its movement characteristics, history, narrative/intention, and context/situation;
- 2) Hone writing, viewing, discussion, creative, critical/analytical thinking, and collaborative online working skills;
- 3) Think and write about a dance practice's history in terms of globalization, race, gender, sexuality, colonization,

- appropriation, commodification, resilience, and empowerment;
- 4) Develop a nuanced understanding of dance, both live and on screen, and how it participates in cultural meaning making; and
 - 5) Develop a continually evolving way of thinking about dance practices that the student encounters in his/her life.⁸

Multiple online tools, utilized in assessing whether or not the students meet and fulfill these learning objectives, were developed specifically by Shea Murphy and the instructional design team for this course. These include TA-moderated synchronous discussion sessions in Adobe Connect chat rooms, Zaption video tours that present lectures and allow students to answer and discuss questions directly within the Zaption program, group wikis that are student-created blogs covering course materials, timed module midterms, open-book quizzes taken online, a dance practice eportfolio that functions as an online journal/blog, and a final exam administered online through ProctorU. More traditional forms of assessment include written homework study guides and a performance response paper. For the purpose of this case study, the focus will be on three student learning objectives (SLOs) and the methodology for assessment:

- 1) Student engagement with the dance world at large as assessed in the eportfolios and performance response papers;
- 2) Student discussion of the course materials with the instructor and peers in discussion sections and wikis to evaluate engagement with lectures; and
- 3) Student comprehension of historical and cultural politics of a given dance form as assessed in module midterms and the final exam.

One of the general expectations within a dance studies course is that the students engage with the dance world at large in some capacity, such as observing and writing about a performance, taking a local dance class, or participating in a social dance setting such as at a club or a wedding. This concretizes the department's position that dancing is a form of embodied research. In the *Dance: Cultures and Contexts* online course, this is assessed through the use of traditional papers such as the performance response paper and through the use of media tools such as the eportfolios.⁹ For the performance response papers, students are expected to attend a local performance, ritual, or special dance event and then write a paper about that event. The expectations are outlined in a "Dance Analysis" rubric, created by Shea Murphy, which asks the students to analyze the dance in terms of its movement characteristics, history, narrative/intention, and context/situation. They are then prompted to deepen their analysis by relating the dance to

course concepts such as globalization, race, gender, sexuality, etc. While this paper format is submitted and graded electronically through the University of California's CANVAS system, the eportfolios are a great opportunity to show how the more traditional medium of the academic paper can be supplemented using Internet and media resources.

For this assignment, students are required to dance for at least 30 minutes each week and dance in public at least once. They then write weekly entries about these experiences in a blog supported by the CANVAS system. Shea Murphy's eportfolio guidelines again ask them to describe their dance experience in terms of movement characteristics, history, narrative/intention, and context/situation. They are then to connect their descriptions to course materials, with a final blog entry that provides an overall analysis of the experience. What is unique about this assessment platform is the creativity and engagement level that it fosters. Students include videos they take of themselves dancing alone and with others and often include photos or how-to-videos of the dance forms in which they are participating. This medium not only allows instructors to verify the active participation of the student and assess their knowledge of the dance analysis criteria developed through the course, it also gives the student an ability to creatively represent his/her dance practice. For example, one student took the dance forms we were learning about each week in class and found how-to videos online. He then proceeded to alternately record or take pictures of himself learning the dance forms and posted it side-by-side with the YouTube instructional videos. He then was able to connect the "feeling" of performing the dance back to the dance's historical and cultural context that he had learned about in class lectures and discussions.

Two of the more innovative platforms for the assessment of student knowledge of course materials in a group setting are the synchronous discussion sessions and the group wiki assignments. The synchronous, TA-moderated discussion sections model an on-campus discussion section in their small group settings and their group-oriented engagement. My experience as a discussion leader in this setting indicates that it is sometimes more difficult to engage the student because of technological glitches and a feeling of anonymity that is perpetuated from being in front of a computer screen rather than in the physical presence of a classroom. Multiple tools in Adobe Connect, however, are helpful in assessing student participation in this setting. Recording class meetings so that they can later be reviewed to see who is participating in terms of speaking or writing helps the instructor stay present in the discussion without having to document each student's participation in real time. Small breakout groups are frequently utilized, which allow students to collaborate in groups of 3-5 and creates a more intimate setting where students are often more likely to speak and utilize webcams. Instructors can circulate throughout these small groups and quietly observe, without interrupting, student ideas on a given subject. I have also found that online polls and chat discussions enable students who might not traditionally speak in a discussion setting to voice their ideas in written form during the course of the class. All of

these tools within Adobe Connect allow the instructor to assess the student's grasp of the information and document their opinions and analysis of the course materials that they are learning during the online, asynchronous lectures.

Similarly, students create group wikis through the CANVAS platform that are used to develop course knowledge learned in lectures and interviews, and these are also evaluated through a rubric developed by Shea Murphy. For example, the students might be asked to collaboratively complete a group written assignment that analyzes a hula performance video they found online and answer a series of questions about that video (i.e. Where is this performed? Who is in the audience? How are gender roles portrayed? Etc.). They are then asked to revise and compile these questions into a narrative about the video and post this information, along with the video, to their wiki site. Each person then signs up for a role as Tech Designer, Text Editor, Image/Video Researcher, or Graphic Designer and are charged with designing the website.¹⁰ Tools such as the page history on the wiki site itself inform the instructor who contributed, when they contributed, and what their contribution entailed. In addition, group wiki evaluations are submitted with the assignment in order to assess each group member's impact on the final product of the webpage. This assignment, along with the discussion sections, aids in evaluating how the students grasp the course materials and their ability to converse about the material with their peers in order to present the information in terms understandable to the general public.

Finally, the module midterms and final exam are timed, online exams used to appraise the student's knowledge of the course materials. The three module exams are open book and include short answer and multiple-choice questions. Students can take the exam at any time during a three-day period. Multiple-choice answers are automatically graded by the system, and short answer questions can include items such as videos. The final exam is cumulative and not open book, as UC Riverside guidelines require that a substantial percentage of the course work be "secure," due to concerns about cheating. Therefore, this class has made use of an outside service called ProctorU. Students sign up for this service, and a live proctor observes the students taking the final exam through their webcam in order to ensure that they are not discovering their information from another source (online or in their own environment).¹¹ Both of these mediums make the grading process significantly easier, while also providing unique tools to assess student knowledge.

All of this assessment information has been incorporated into the different iterations of the course to improve student learning. For example, the third iteration of this course included the Zaption program, which was added to the lecture video component of the class. In the previous quarters, assessments by the instructional team suggested that the engagement with the lecture materials might be enhanced if the students were able to answer, address, and converse with each other during the course of the lecture itself, rather than having to provide responses to lecture questions in a separate Word document. Shea

Murphy, Arndt, and Zervou, therefore, implemented Zaption, an interactive video platform that allows instructors to add images, text, quizzes, and discussions to videos while also providing analytics on how the students are engaging with the content.¹² During the course of the video lecture, a screen will pop up asking the student viewer a question about the material they are witnessing. For example, while watching a scene from the movie *Flashdance*, students are asked to write down five observations about the camera's presentation of the dancer's body. This enables a more active form of learning for the students and evidence of student engagement for the instructor.

The student wiki sites are another example of the dynamic development of online assessment tools. Originally, students used a program called etherpads to document their written collaborative work before it was posted and reformulated for the wiki site itself. Student evaluations showed that this tool was ineffective technologically and that this extra step in the process was cumbersome for students. So, with a shift to a new learning management system, the development team adapted the course to enable student collaborative writing to occur within the wiki sites themselves.¹³ Both of these examples illustrate effective use of assessment, which adapts to student learning by closing the loop.

Conclusion

A humanities background offers students in all disciplines an opportunity to expand their understanding of cultural and political contexts and to learn the social value of complex thinking, questioning, and reasoning. These values, however difficult to measure, lend insight into differing perspectives and provide skills that enrich students' lives beyond the academy. While no assessment methodology can capture or measure the entire educational experience, assessment practices do organize and give structure to value-based instruction. The online classroom offers the same skill set opportunities offered in traditional environments, for learning in any environment happens when students encounter new ideas and multi-dimensional experiences. The online learning environment for the humanities-based dance studies course presented provides numerous opportunities for different points of assessment in the learning process of student learning outcomes. Understanding how to use student work for assessment purposes is a key component for improving the student learning from those outcomes. While faculty have traditionally used student work as a means to measure what students have or have not learned, what is often forgotten is that classroom assessment data plays an important role in the curricular and programmatic modifications necessary to improve student learning. Simply stated, assessment is a multi-faceted palette and, as such, the most effective assessment of learning takes place when all perspectives, students, instructors, curriculum developers, and evaluators, are taken into consideration.

Notes

¹ Susan Foster. *Choreographing History*. (Bloomington, IN: Indiana University Press, 1995), 3.

² Provezis, Staci. "Regional Accreditation and Student Learning Outcomes: Mapping the Territory." National Institute for Learning Outcomes Assessment. October 2010. <http://www.learningoutcomeassessment.org/documents/provezis.pdf> (accessed April 30, 2014), 15.

³ Huba, Mary E. and Jann E. Freed. *Learner-Centered Assessment on College Campuses: Shifting the Focus from Teaching to Learning*. Boston: Allyn and Bacon, 2000.

⁴ Eberly Center, Teaching Excellence and Educational Innovation. "What is the Difference Between Grading and Assessment?" Carnegie Mellon, <https://www.cmu.edu/teaching/assessment/basics/grading-assessment.html>.

⁵ Suskie, Linda. *Assessing Student Learning: A Common Sense Guide*. Bolton, MA: Anker Publishing, 2004.

⁶ A "mixed methods" approach uses both quantitative and qualitative assessment measures to evaluate a given scenario (e.g. an assignment, a course, a program), meaning that practitioners interpret what numerical scores or ratings indicate within a specific context. Tashakkori, Abbas and Charles Teddlie. *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences*. SAGE: Thousand Oaks, CA, 2009.

⁷ Ibid.

⁸ These SLO's are paraphrased from the most recent Dance: Cultures and Contexts syllabus, offered in the Winter Quarter of 2014.

⁹ The eportfolio platform is unique to the University of California's Online CANVAS platform.

¹⁰ The questions, assignments, and roles for this wiki design were developed by Shea Murphy, Zervou, and the UCOE instructional design team.

¹¹ In the latest version of this class, students were also given the option of taking the final on campus, proctored by a TA at a set time, so they would not have to pay a fee to take the final. The politics and finances of this are all still very much under discussion at UCR and at other UC campuses.

¹² For more information see www.zaption.com.

¹³ The learning management shifted between the first time that the course was offered through the COLE platform, to the second time it was offered through the CANVAS platform.

Teaching Machines and the Humanities: Paragraphs on Critical Media Pedagogy

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As an appendix to my book *Teaching with the Screen*,¹ I attached a brief list of statements that provided practical approaches to the use of media and technology in higher education. Most of these suggestions were gleaned from research conducted over the past 50 years (some of it derived from my own ethnographic and practical experiences, some of it garnered from historical studies on the topic). As a spur to thought, I gave these statements on critical media pedagogy a formal structure riffing off Sol LeWitt's 1969 *Artforum* text "Statements on Conceptual Art."

As I continue to discuss with colleagues the ways in which media/technologies intersect with education in formal and informal settings—especially in light of the ongoing debate and media hype around MOOCs (massive open online courses) and the so-called “flipped classroom” (at one time associated with the Khan Academy)—I find myself revisiting some of my earlier statements with an eye to extending the “how to” aspect of my research. In this context (and considering the interdisciplinary nature of this publication), I hope to resist the instrumental logic that focuses on training as a goal (button pushing in the worse sense) and often seems to accompany discussions of what Apple CEO and visionary Steve Jobs called “the intersection of technology and the liberal arts.” This instrumental mindset which organizes around the bureaucratic and the functional undercuts much of what is held most valuable within the humanities—the ethical, non-reductive, and complex nature of one's interaction with the world and its people as phenomenological, cultural, and historical entities.

So in the spirit of another text by LeWitt, and as a means for providing a brief intervention in the debate as to what practices best utilize media technologies in the humanities classroom, here are a set of paragraphs that

attempt to generate a more critical, yet imaginative, framework for understanding media and education.

Critical Screen-Machine Pedagogy

The fundamental tension in the educational setting is between the need for freedom and the need for control. Unfortunately, owing to the logistics of the institutional system of formal education, teachers often err on the side of control (classroom management in the lingo of schools of education and teacher training). Freedom is desired, but frightening. In informal settings such as distance learning and online instruction, the structure that control brings to the setting disperses, leaving the teacher and the student in a diffuse, polyvocal, and unfocused space (a problem that manifests for telecourses as well as MOOCs). This diffuse instructional relationship, predicated by mediation through a screen, accounts for the statistic that haunts online education: a ten percent completion rate for most courses taught through the Internet or television.²

Technology can be used as either a means of freedom—as exploration (research), challenge (game), or experiment (lab)—or as a means to control (the drill and kill routine of earlier machine instruction).³ But freedom is fleeting, and control is routine (at least in the formal setting). Sociologist Max Weber suggests that complex systems become routine through bureaucratization (carve away the complexities of a given situation as a form of institutional safeguard).⁴ As an institution, a university is a bureaucracy. Machine pedagogy fosters this bureaucratic mandate. The balance between freedom and control (pushing and pulling, seeking out the tension in the setting, teaching in that gap) is a matter of practice. These paragraphs are about the theory and history of that practice.

Claw Hammer

Typically a claw hammer has a few well-defined uses. It can be used to pound nails into wood, or to remove nails from wood, or to pry apart pieces of wood that have been inadvertently nailed together. There are other possible uses, but these are the ones most likely for a hammer. On the other hand, in Korean director Chan-wook Park's *Old Boy* (2003), a narrative involving wrongful imprisonment and revenge, the brutal action-oriented centerpiece of the film involves an extended fight sequence in which the protagonist battles his way through a hallway infested with gangland thugs using only a claw hammer. In this instance (this fictional instance), the claw hammer becomes a martial arts weapon (although the grace with which the weapon is used is rather more primal than poetic). The film's protagonist uses the claw hammer to splinter shinbones, pulverize knuckle joints, bloody noses, and crack skulls. An extreme example of Heidegger's readiness-at-hand.

But to extend this line of thought (as often is characterized by those concerned with media in education), technology is a tool—a present-at-hand in the Heideggerian sense of the object-thing that is there in the world but remains potential as opposed to actively used. (In this context, the many expensive technologies that sit collecting dust in poorly maintained labs and classroom closets serve as the present-potential, never known-to-be-used of educational technology). As an implement, the claw hammer can be benign in its pounding of nails, or malignant, but useful, in its pounding of gangsters as in *Old Boy*.

Medium Specificity

Within film and media studies, one tradition that has held sway for much of the discipline's development is the idea of medium specificity. This idea suggests that each medium has features that distinguish it from all neighboring media while retaining similarities that bind each as a formally recognizable object of study—radio, cinema, or television. For instance, some aspects of the medium that allies cinema with television are the use of narrative, image and sound, and duration. What sets them apart are the conditions of viewing (theater versus living room), the materiality of the medium (celluloid versus cathode ray tube), and length of program (two hour feature versus 30 or 60 minute show). Of course, in the current digital moment, many of these specificities are blurring into one another—DVD, cable, digital cinema all suggest that the distinctive qualities of cinema and television are collapsing into a single medium with a variety of formats and genres.

For pedagogy, the specificity of a medium should still bear some weight since the formal qualities of media set the benchmark for what form of instruction best matches the educational setting. Large screen projection is analogous to the lecture. The tablet computer or laptop is analogous to the notebook. Simple game-based applications (whether on laptop, desktop, or tablet) are analogous to drill and kill in traditional keyboard training. Twitter or Wordpress are analogous, perhaps, to the seminar discussion. Consequently, as the specificity of the media suggests certain approaches to the educational environment, the specificity of pedagogy should also be explored.

A Micro-history of Media in Education

The history of media technologies and education parallels that of progressive education in the US context. The student-centered classroom of progressive education, which intersects at points with the traditional humanities seminar, is the site of introduction for media in its specificity into the educational environment. Consequently, what guidelines are there for the use of the media technologies (which are increasingly ubiquitous for the individual, the group, and the world) in the specific setting of the humanities classroom?

Although there is a roughly hundred year history of the use of media technologies in education, first with radio, then movies, television, video, and now digital computers (in a proliferation of sizes, shapes, and qualities), there still exists a presentist bias with much of the current research and practice being generated around social media forms of educational technology (with much of it dealing in the romantic lexicon of revolution). A singular example of this bias exists in the aforementioned flipped instruction promulgated by the Khan Academy and others publicizing innovation in online instruction. Recently during a talk featured on National Public Radio, Salman Khan, the academy's founder and namesake, advocated for the teaching of mathematics using videos that were to be viewed outside of class time by students who would then come to class prepared to work through problems with the teacher using a more seminar style format.⁵

This should seem familiar to those who teach in the humanities as the basic practice of text-based disciplines such as English, History, Film Studies, and such. The watching of videos replaces the reading of books or essays (though the videos are often lacking the artistry and craft of a well-produced text), with the in-class workshop replacing the seminar discussion around themes and ideas from the readings. This blindness to the foundational practices of humanities education speaks to a denial, a screening off as such, of the history of media technologies in education, a history that has been defined as much by humanities scholars as those educators in engineering and the applied sciences (from which many who represent the driving force behind the current incarnation of online education hail, such as Khan and the founders of Coursera, Andrew Ng and Daphne Koller).

Slates and Smartboards

The most primal technology (the claw hammer) of education is, of course, the ordinary slate blackboard (having over the past twenty years transmogrified into the ever present whiteboard/smartboard of business conclaves and university classrooms). The durability, functionality, and ease of use (the readiness-at-hand, to return to Heidegger) speak to the long lasting effect of the blackboard.⁶ On the blackboard, text and images, thoughts and digressions can exist side by side, but also these can be erased quickly to make room for more thoughts, texts, diagrams, and figures. Many of the earliest examples of visual education (film) and telecourses (public television) featured a professor standing before a blackboard delivering a lecture as its main visual trope.⁷

Radio and Audio

Books as a technology of education are too ubiquitous for comment and thus radio becomes the first form of media technology to suggest alternative pedagogies. Amplifying the campfire tale or the public lecture, radio offered high impact, narratively rich content at a distance. Unfortunately,

synchronizing class time with broadcast time was always a difficult maneuver on the part of the teacher and the school. More needs to be written on this, but for now, I merely mention radio's status as the technological medium that first called into question the conventions of classroom instruction by potentially broadcasting the voices of the best teachers available in higher education (a claim made by those who create and administer MOOCs as well).

Cinema and Movies

For much of the 20th century most everyone loved the movies. And, with rare exception, throughout that same interval movies were produced for and used in education from kindergarten to graduate school. But, what began as the most portable form of visual instruction over the years fell increasingly into the categorical hole of the escapist activity or as a form of illustration for the more in-depth lecture of the classroom teacher. For instance, as a reward for reading the book *The Tale of Two Cities* by Charles Dickens, students were provided some recreational time by watching a condensed version (no longer than 35 minutes) of the 1935 film starring Ronald Colman and Elizabeth Allan. Movies work best when the subject matter calls for vision at a distance focusing on people, locations, and objects (microscopic or cosmic) that cannot easily be brought into the college. In the best instances, the most desirable actors, writers, artists and directors were available through the medium of film just as they are through the medium of printed books. A point that seems to get lost in the current hype around online education is that the best “educators” have always been available in books, the foundational information object upon which Western educational systems developed, and for the past hundred years the same has been true of radio, film, television, and video. Nevertheless, cinema provided engagement, motivation, and vision to students who were often ground down by uninspired texts and practical routine.

Television and Video

Television shares the problems of radio, only with pictures. To use the television in the classroom, instruction onscreen must be coordinated with classroom instructional time and the apparatus—the actual television—needs to be brought to the room, set up, and tested in coordination with the programming involved. But unlike 16mm film projectors which demanded knowledge of equipment operation—the sound drum loop below the film gate was never threaded correctly if my memory serves—television required little more than what was involved in switching on the home set and clicking to the appropriate channel at the time scheduled for the instructional program to air.

On the other hand, video freed the instructor from troubles around scheduling, but continued to pose the problem of setup and takedown (although minimal, it did take time away from instruction) and continued the drift of media toward recreation rather than instruction. Whereas film

suggested the quid pro quo of pleasure, video, owing to the easy availability of full length Hollywood product seemed to demand that recreational viewing enter the classroom. Also, due to the low resolution of VHS recording, the strictly instructional programming produced in-house or by independent producers was often of much lower quality than that available on 16mm film (though usually of similar quality in relation to acting, writing, and production). Regardless, video opened up an even more portable and efficient means for bringing the far-flung world into the classroom. The size and quality of the image was smaller than 16mm, but video gave user-controlled motion and time to visual education.

Computers and Multimedia

Overlapping the historical introduction of video and the VCR into the classroom (often strapped to a rickety wheeled cabinet for easy transport around the college or university), computers became the newest innovation during the 1980s. The Apple II stands out in this regard and led to the introduction of virtual simulations, multimedia, and videogames into the instructional repertoire. Digital media leads directly to the current moment of MOOCs, iTunes U, and flipped instruction, but also points toward the transformative potential of computer media for teaching and learning. Whereas earlier forms of media brought voice, music, and moving images to pedagogy, the newer technologies of digital media make the production of media as easy as its consumption. While this mirrors the practical relationship that worked well during the age in which textual objects were the exclusive domain of practice for students—reading and writing of texts dominating the work of students and teachers—the current media moment allows for an expanded set of competencies to dominate.

But this returns the discussion to the issue of medium specificity. Although students and teachers can now produce videos, games, apps, simulations and such, it becomes increasingly necessary to focus on the particular goal of instruction for a given activity. Some louder voices in academia clamor for an end to the tyranny of the text or for a move toward an equivalence between the visual and the argumentative, but the specific modes of discourse, pedagogical as opposed to those of entertainment, that derive from each form of media still poses a problematic issue for educators. While hours of class time playing *The Oregon Trail* computer game (a nearly ritual experience for school children that came of age in the late 1980s or early 1990s) perhaps taught students the experiential trauma of a sudden and unexpected death in the old West, most often it seemed that the game simply served as a distraction from more focused and challenging activities required by the curriculum.

Pedagogical Specificity

Just as there are specificities that need to be observed in relation to each media, there are also specificities to the practices of pedagogy. The lecture, class discussion, seminar, lab, and other forms of instruction set up structural constraints on what may be accomplished during class time. The key aspect of this structural relationship is the physical and visual body of the teacher. With the inclusion of media in the educational setting, the technology becomes embedded in a relationship with the teacher and the students. The specificity of the pedagogical scene works with (or against) the specificity of the media being used. The specificity of the tool determines the use to which the tool is put and in turn determines the fluctuations in the relationship during instruction (the claw hammer from *Old Boy* comes to mind as an example of specificities deployed against the boundaries of constraint).

The Teacher on the Screen-Machine

The teacher during a lecture represents the teacher on the screen. The teacher appears onscreen and begins to tell you what it is. The teacher appears on screen and begins to live his or her life. Your life, your attention, your success doesn't matter one bit. The teacher appears on screen and wants to set an example for you—wants to model the behavior of a thinker on the stage. All of the media discussed above (save for the blackboard which will be examined below) can accommodate the lecture as the mode of instruction. The better the production value, the better the overall aesthetics of the educational experience. The flesh-and-blood teacher may step aside and let his or her mediated doppelgänger take over instruction.

The Teacher and the Screen-Machine

The teacher during a seminar or class discussion represents the teacher and the screen. Just as the blackboard forms one third of a triadic relationship between the teacher, students, and slate, the teacher and the screen mode of instruction suggests that the relational aspects of the setting dominate. Now the teacher becomes one component of an expanded instructional space. The media distracts and focuses instruction in ways that can be beneficial to the overall experience but also can detract from attention on the subject at hand. The students interact with the teacher but also engage with the media-machine. The media should not dominate. Neither should the teacher. Or the students. The setting is relational and equal. But there is still a politics—a politics of the classroom.

The Screen-Machine as the Teacher

The teacher as a construct of a science fictional world becoming increasingly real represents the screen as the teacher. Whether the mode of instruction is a lecture, a seminar, or a lab, the media-technology-machine has become the teacher. Most, perhaps all, of the attributes of the teacher has been embodied by the screen and the screen replaces the flesh-and-blood teacher. Of course, given the thirty year push to privatize the classroom and to substitute education with training, the screen as teacher takes on more ominous contours. Simulated humans serving as teachers and videogames serving as learning environments have promise, but not without many cautionary fables.⁸ All of the things that make the flesh-and-blood teacher so appealing become embodied by the machine. Well, not all of the things. Most.

Tech Bubbles, or the End of History

The tech bubble is not a revolutionary moment in human emancipation. It is a Dutch tulip market gone less wild. The financial bubbles radiating out from the centers of power in Silicon Valley have placed mandates upon education to become accountable. Accountability, while valuable as a generalized goal, has become in the hands of administrators and technologists a tool for the blind implementation of a technological imperative. This imperative suggests that teachers and students should blindly follow the lead of capital-intensive businesses as they create and implement new technologies on an increasingly shorter and shorter time frame. We all know the drill, last year's cell phone is this year's trash (but, please recycle). This imperative creates pressure upon academic disciplines to demonstrate worth. This is tied not only to research but also to teaching. In the past, educational imperatives—humanistic or otherwise—still had the legitimacy to say how media and technology should be used during instruction. With the advent of big data—the intrusion of technologies of mass observation and analysis—the weight has shifted significantly toward the technologist and away from the teacher (or the student). This shift created a situation in which the revolutionary present of techno-corporatism is all that matters—all hail Google glass.

Social Media and the Internet

Social Media are not learning tools. They are spaces to advertise the self and to promote the world of commerce. 140 characters is not an argument. It is an assertion. It is public relations of the self. As Peggy Orenstein sarcastically suggests in *The New York Times*, “I tweet, therefore I am.”⁹ But, to blog or to micro-blog, that is the question.

Notes

- ¹ Dan Leopard, *Teaching with the Screen: Pedagogy, Agency, and Media Culture* (New York: Routledge, 2013).
- ² James Zigerell, *The Uses of Television in American Higher Education* (New York: Praeger, 1991).
- ³ B. F. Skinner, *The Technology of Teaching* (Englewood Cliffs, NJ: Prentice-Hall, 1968), 23-24.
- ⁴ Max Weber, "The Nature of Charismatic Authority and Its Routinization," in *On Charisma and Institution Building* (Chicago: University of Chicago Press, 1968), 48-65.
- ⁵ Salman Khan, "How Can Videos 'Flip the Classroom?'" *TED Radio Hour*, NPR, June 17, 2012.
- ⁶ Larry Cuban, *Teachers and Machines: The Classroom Use of Technology since 1920* (New York: Teachers College Press, 1986), 57-58.
- ⁷ Leopard, *Teaching with the Screen*, 36.
- ⁸ Some of these fables are produced in connection to the advanced research and development of virtual humans in Sharon Ghamari-Tabrizi, "The Convergence of The Pentagon and Hollywood: The Next Generation of Military Training Simulations," in *Memory Bytes: History, Technology, and Digital Culture*, eds. Lauren Rabinovitz and Abraham Geil (Durham, NC: Duke University Press, 2004).
- ⁹ Peggy Orenstein, "I Tweet, Therefore I Am," *The New York Times*, July 30, 2010.

How Architectural Students Learn via Mobile Technology

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For the majority of public higher education institutions, online education is a significant element of their long-term plans. Each year the number of students taking at least one online course increases. Mobile Learning (M-Learning) and online classes are here for good and will continue to increase in volume. This study found that interaction between teacher and student, real world problems, and making their own decisions about learning give architectural students the most satisfaction with mobile learning.

Introduction

The School of Architecture at Southern Illinois University Carbondale (SIUC) has an accredited eighteen (18) month Masters of Architecture (M-Arch) Program and recently started an Online M-Arch Program. The first semester of the Online M-Arch Program was a learning experience for both students and faculty. How do architectural students learn with mobile technology and what factors lead to their satisfaction when taking an online course? This research is based on the responses of students from the third and fourth year undergraduate architectural program and the Online Masters of Architecture Program.

Literature Review

One definition of M-Learning is “Any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies.”¹ M-Learning has been defined as situated, just-in-time learning, negotiated across digital technology in answer to the requirements of the user.² Melhuish argues that M-Learning is when a person defines meaning

for themselves alone or collectively using a device in their own environment.³ Mobile devices offer five advantages for education: portability, access, learning opportunities, connection and personal experiences. Laurillard argues that the portability of mobile devices is changing the nature of work activities and learning.⁴ Access to education has become ubiquitous and affordable. Learning opportunities have become situated. M-Learning and devices allows connectivity and interactivity by way of other devices, people, other technologies and networks. Peters argues that mobile devices offer individualized and personal experiences, a “unique scaffolding that can be customized to the individual’s path of investigation.” Mobile devices gives the student “anytime, anywhere learning.”⁵

History of M-Learning

Some argue that the history of mobile learning began in 1901 when the Linguaphone by way of wax cylinders giving language lessons; technology continued to improve, developing 8 track tapes, compact cassette tapes, and CDs. In 1968 the Learning Group at Xerox Palo Alto Research Center with Alan Kay developed the Dynabook, a book size computer that ran simulations for learning. The Dynabook was portable, carried an encyclopedia of knowledge, and could be plugged into available networks. In the 1990s, Universities in Asia and Europe were developing and evaluating mobile learning for their students. The Orange Grove Middle School of Tucson, Arizona, together with Apple’s Classroom of Tomorrow, developed the “Wireless Coyote” project, using mobile computers connected to wireless networks in May, 1991. In that same decade, the Palm Corporation gave grants to companies and universities to develop the use of mobile learning on the PalmOS.⁶

In the early 2000s, the following trade shows and conferences were organized to specifically investigate the use of handheld devices and mobile learning: SALT Mobile in USA, IADIS Mobile Learning International Conference series, WMUTE, Handheld Learning in London, ICML in Jordan, mLearn, and Mobile Learning in Malaysia.⁷ Mobile learning companies were formed specializing in content development, authoring and publishing, and delivery and tracking. From 2010 to present day, hardware and software is being developed to enhance mobile learning; hardware includes smartphones, tablets, computers/laptops, eye glasses, clothes, watches, and more; software delivering and assisting M-Learning courses to mobile operating systems include GoMOLearning, Captivate, Lectora, Articulate, Storyline, Adobe Connect, Fuze Meetings, Panopto, Polycom, Skype, Turnitln, Wiggo, and D2L.

Hennessy argues that M-Learning engages students in reflective and active learning.⁸ Kim, Mims, and Holmes argue that educational benefits fall into four groups: providing students and educators with time and freedom of location, increasing speed in learning and teaching, allowing one-to-one

learning, and empowering teachers with new educational subjects and learning.⁹ Benefits that mobile devices offer students include but are not limited to the following:

...flexibility, accommodating special needs of some learners, improving learners' engagement and motivation, encouraging learners' critical thinking and construction of knowledge, and facilitating the communication and collaboration between learners. ... Zurita and Nussbaum observed that m-learning results in more interaction and collaboration than traditional learning.¹⁰

Donovan, Bransford, and Pellegrino argue that the key characteristics of learning include but are not limited to the following: memory and the structure of knowledge, problem solving and reasoning, the early foundation of learning, regulatory processes that govern learning, including metacognition, and how symbolic thinking emerges from the culture and community of the learner.¹¹ Fabio Sergio argues the following themes will drive development of M-Learning initiatives in innovative directions: continuous learning; educational leapfrogging; a new crop of older, lifelong learners (and educators); breaking gender boundaries, reducing physical burdens, a new literacy; software literacy; teachers and pupils trading roles; synergies with mobile banking and mobile health initiatives; new opportunities for traditional educational institutions; and a revolution leading to customized education.¹² Learning that occurs in meaningful and authentic contexts will help give mobile technology groundbreaking educational practices. "Because of the mobility and strong computing power of technologies, learning becomes ubiquitous and seamless."¹³

Attributes Relevant to M-Learning

Mobile learning will not be effective unless you have high-quality internet service. M-Learning opportunities are created when educational technologies and resources are coupled with mobile devices. Mobile learning can bridge socio-political isolation, cultural or geographical distance and enable communication among professionals. Lessons from the past have taught us that effective pedagogy leads to effective learning.¹⁴ Beckmann argues other attributes relevant to mobile learning: the learner is mobile, not only technology; learning is intertwined with other actions as part of life; learning can produce as well as gratify goals; the management and control of learning can be dispersed; context is built by students through interaction; formal education can both conflict with and complement mobile learning; and mobile learning intensifies ethical issues of ownership and privacy.¹⁵ Mobile learners construct their own conceptual understanding of the social and physical world, and interact accordingly. Gary Long and Carol Marchetti argue that students

that take online courses with high levels of interaction earn better grades and report more learning than students in similar face-to-face classes.¹⁶ M-Learning needs both technological infrastructure and good course design, pedagogy, to create multiple opportunities for interaction and learning to be effective..

Student Satisfaction

Stephanie Coleman argues that students flock to online courses for reasons of flexibility, quality and accessibility.¹⁷ Ms. Coleman gives the following reasons why students like and take online courses: anytime, anywhere learning with courses that are accessible twenty four hours a day/ seven days a week; student-centered teaching; increased student interaction; exposure to knowledge and real world situations; increased skills in using technologies; less intimidating environment than a face-to-face classroom; increased student-bonding and camaraderie; more approachable instructors; broad range of content; contributions from everyone; equivalent respect for online degrees as for traditional degrees; team learning facilitated; and diversity of course material.¹⁸

Peter Leong argues that basically student satisfaction with online courses is influenced by instructor interaction, workload/difficulty, and system-wide technology.¹⁹ Leong argues that demographic factors, such as year in school or gender, had no significant effect on student satisfaction with online courses.²⁰ Prior experience with email, internet, online courses, and computers was not significant in student satisfaction with M-Learning. Kuo argues:

...that learner-instructor interaction, learner-content interaction, and internet self-efficacy were good predictors of student satisfaction while inter-actions among students and self-regulated learning did not contribute to student satisfaction. Learner-content interaction explained the largest unique variance in student satisfaction. Additionally, gender, class level, and time spent online per week seemed to have little influence on learner-learner interaction, internet self-efficacy, and self-regulation.²¹

Learning Styles

Mobile learning has been compared to constructivist learning involving creativity and spontaneity.²² Corrent-Agostinho argue four general principles of a constructivist learning situation: (1) learning is a development of construction; learning happens through social consultations of meaning; learners are occupied with authentic contexts; philosophical thinking is a final goal.²³ Beckmann and Kilby add, “however, at the postgraduate level, provision of extensive background material as downloadable text-based or media-rich

resources is vital if mobile learners are to start constructing their own understanding of complex issues.”²⁴

Constructivism is a belief that knowledge is created by the individual through their contacts with their environment.²⁵ Constructivists believe in individual understanding of reality.²⁶ Sjoberg argues that constructivism is a learning methodology that gives learners the opportunity to gain experiences by which they can solicit their own questions, and build their own models.²⁷ Sjoberg also argues that constructivism enables a community of learners to participate in reflection, activities, and discourse,²⁸ and inspires learners to ownership of ideas and to pursue independence, shared social relationships, and enablement. Learning becomes a self-regulatory activity: students figure out things for themselves instead of responding to stimuli.

Constructivism argues that everyone has their own special learning style. Sometimes the learning styles have as much to do with how the brain works as environment. Autopsies have been performed on both dyslexic and more typical brains. The dyslexic brain showed even development on both spheres of the mind, while the typical brain showed asymmetrical growth in only one sphere. Ferriman points out:

Equal development of both spheres permits learning-differently students to enjoy special gifts. They “see” things 3-dimensionally, giving them a unique kind of spatial awareness. This allows some of them to be, among other things, excellent architects, inventors, directors of film and theatre, interior decorators, and teachers for other learning-differently students (students who learn differently).²⁹

Ferriman argues that there are seven categories of learning styles: visual, physical, aural, verbal, logical, social, and solitary.³⁰ In the visual category, individuals use images, pictures, color, and diagrams to learn. Individuals in the physical category learn by doing. Aural learners use sound to learn, such as recordings, rhythms, and music. Verbal learners use words to learn, such as reading aloud, speech, and writing. In the logical category, individuals use logic and reasoning to comprehend a concept. Social learners learn best in groups and enjoy working with others. The solitary category includes individuals who enjoy working and learning alone. It is safe to say that most individuals have no one learning style but use a combination of styles. Architects use visual, physical, logical, and solitary styles to learn.

Methodology

The research methodology is a combination of quantitative and qualitative methods. This study analyzes data from case studies, student interviews, and two surveys administered to students at SIUC. The first survey was administered to students in an undergraduate architectural design studio class

in March, 2013. The survey used background characteristic variables, criterion variables, Likert scale questions, and open-ended questions to address the research: mobile devices used, benefits of M-Learning to students, M-Learning barriers, and best methods for student learning. The second survey was given to architectural graduate students in September, 2013, in their first semester of SIUC's Online Master of Architecture Program. The graduate survey also uses background characteristic variables, criterion variables, Likert scale questions, and open-ended questions to address: mobile devices used, learner-instructor interaction, learner-learner interaction, authentic learning, active learning, personal relevance, student autonomy, and student satisfaction with M-Learning. This research is generalizable to undergraduate and graduate architectural programs. The undergraduate survey was administered to students in classroom settings; the graduate survey was administered over the internet; the small classroom populations made statistical significance impossible to achieve.

The surveys were pretested with students from each year. Survey instruments were reviewed by the Human Subjects Committee, with recommendations of wording for some of the questions. The surveys were corrected, approved and administered to the students. The undergraduates completed the survey in the design studio in one sitting. In three separate emails, seventeen of twenty-five graduate students completed the survey for a completion rate of sixty-eight (68%) percent.

Analysis of Data

The summary of the undergraduate survey is as follows: the average student was a twenty-one-year-old white male who works part-time and goes to school full-time. The majority of the students had not taken an online course and do not plan to take one in the future; this is not a surprise since the student advisor discourages students from taking online courses. One-hundred-percent of the students owned laptop computers and smartphones. The mobile device most used by students for class work were their laptops, followed by smartphones. Most students thought M-Learning could save time and give them the ability to learn anywhere. Barriers to M-Learning included: misplacing the mobile device, internet connectivity failure, cheating, verbal miscommunication, and lack of motivation on the student's part. Architectural students learn best with visual instruction and secondarily with real world contexts. Most students thought mobile-technology would help them to learn better.

In March, 2014, the junior architectural studio class was interviewed. The students were asked how they used their laptop computer and how they learned with mobile technology. Collectively, today's students use their laptops in about twenty-four different ways or functions. Students use their laptop for the following (but not limited to) functions: software for school, work, and entertainment; component selection library; social media; online shopping;

cheaper course materials/textbooks; gaming; file sharing; instant communication; networking; data retrieval/storage; information processing; research; online classes; socializing; problem solving; tutorials; meeting people; TV/music/movies/iTunes/YouTube/videos/entertainment; programing; hacking; internet access/emails/cooking recipes; homework; organization; and note-taking. One student explains how he learns with mobile technology:

I see learning with mobile technology as learning across multiple contexts using personal electronic devices. We use these devices for social media and content interaction. I find it very convenient because it is accessible from virtually anywhere. I use it through the school to look at lecture notes and for homework assignments. I also am in an independent study class and we meet once a week and have a meeting using webcams and have class all on line. With this learning I can be at any location with an internet connection. The only way it could limit my learning is if I do not use the resources and ask questions. The only problem I see with everything going online is that I see the teachers becoming less important and not used as much as they should be. The teachers are there for the students to share their knowledge and to help us better ourselves. That is why I believe there always need to be some sort of weekly meeting with the students and professors. The other thing about everything being online is that the libraries are not being used as much as they used to. If I need to research a topic I can easily find information online and not have to take time to go to the library and search for the materials.

As a professor of architecture teaching design, I find the laptop and internet indispensable. The digital era has greatly affected the field of architecture; for instance, working drawings (blue prints) are produced, plotted, and emailed by computer (usually a laptop). The University has started a new program where each entering freshmen is given (paid by student fees) a computer tablet for classwork. Architectural students are required to have a laptop by their sophomore year.

Students in architectural design courses are taught and learn with mobile technology. All design problems begin with precedent studies of building types/architects and site analysis, using research from internet searches. Students' first project presentation is completely digital; laptops are brought to the classroom for schoolwork.

The second architectural presentation is the actual design of the building. Students usually begin designing on sketch paper, then proceed to computer aided drafting (CAD) on their laptops. Using their laptops, students are able to work on their building design projects anywhere, anytime. In the classroom,

the professor usually reviews student work on their laptops. All student drawings and model templates are completed on their laptops. Templates are transferred to the laser-cutter, where model components are cut out and assembled. iPads and smartphones are connected to the school's networking system and used for schoolwork and research. Students present their architectural drawings by connecting laptops to a monitor or plotting work from digital memory sticks.

Graduate Online Survey

The graduate survey was modeled after the "Distance Education Learning Environment Survey" (DELES). DELES is a psychosocial survey designed to measure university and college online learning environments. Normally, DELES uses six scales to measure students' views of their online environment: instructor support, student autonomy, active learning, interaction and collaboration, personal relevance, and authentic learning. The DELES scales in Turkey found that student satisfaction with online learning was based on Instructor Support; while student satisfaction in Spain was based on Active Learning and Autonomy.³¹ It appears that environment and culture plays a major role in a student's distance learning satisfaction.

DELES has three psychosocial aspects which form its theoretical structure: personal development, relationship, and system change and maintenance. The personal development aspect assesses student progress and accomplishments with the distance learning environment. The relationship dimension denotes student support and interaction with others in the distance-learning environment. And system change and maintenance evaluates the distance-learning environment.³²

The survey instrument created for this research is a modified DELES. The Graduate Survey has seven scales: Learner-Instructor Interaction; Learner-Learner Interaction; Authentic Learning (Real Life Problems); Active Learning (Own Strategies); Personal Relevance (Out-of-Class); Student Autonomy (Own Decisions about Learning); and Student Satisfaction with M-Learning. The Graduate Survey starts with demographics, identifies the mobile devices most used, and identifies the methods by which architectural students learn, and then uses the seven scales of DELES.

A summary of the graduate survey: the majority of students in program are white males between the ages of 25-35, enrolled in college full-time and have taken an online course in the past. When doing schoolwork, sixty-five percent of the students "always" use their laptop computer; twenty-four percent use the laptop "often." The next most frequently used devices are smartphones, tablets, with iPads being used the least.

The second question of the survey asks the students to "identify the method(s) by which they learn best." Students replied that they "always" learn best with "visual information," followed by "real world contexts."

Architectural students” (undergraduate and graduate) third best method of learning is with “verbal information.”

Learner-Instructor Interaction had the highest marks of all the scales. When asked, “If you had a question, did the Professor find time to respond?” 82% answered “always,” and 18% answered “often.” 76% of the students answered “always” when asked if the professor responded to their questions promptly; 24% answered “often.” When asked if the Professor gave them input on work assignment, 54% of the students answered “always;” 41% answered “often.” Asked if the Professor encouraged class participation, 59% of the students answered “always,” while 24% answered “often.” 88% percent of the students thought it was “always” easy to contact the professor concerning class matters. Student input was tied at 41% for “always” and “often” when asked to respond to the statement, “I received positive and negative input on my work from the professor.”

For the next scale, Learner-Learner Interaction, architectural students reported that they would “often” work together on assignments but more times than not would rather work alone. When asked to respond to the statement, “My classmates and I shared input on our assignments.” 35% of the students answered “often.” and 29% answered “always.” When asked to respond to the statement, “My classmates and I collaborated on assignments.” 35% of the students answered “never.” and 29% answered “sometimes.” And when asked whether some of the activities in class involved group work, 41% of the students answered “never,” while 29% said “seldom” and 18% answered “sometimes.”

In the third scale, “Authentic Learning” (Real Life Problems), the students’ comments are mixed among “sometimes,” “often,” and “always.” When asked whether “Mobile Learning often related to activities they have outside of class,” the student response was tied at 29% each for “sometimes” and “often,” and 18% said “seldom.” When asked to respond to the statement, “In class I used my everyday experiences,” 35% of the students responded “always,” and the response for “sometimes” and “often” was tied at 29%. And when asked whether “Class assignments involved using real world information,” 47% of the students said “always,” 29% said “often,” and 18% said “sometimes.”

In the fourth scale Active Learning (Own Strategies), the majority of students answered “often” when asked if they developed their own strategy for learning. When the students were asked whether “they have developed their own strategy for how they learn best,” the majority 53% answered “often,” 24% of the students said “always” and 12% said “sometimes.” When asked whether “M-Learning allowed them to investigate topics of interest,” the majority, 65% of the students, answered “often”; 29% said “sometimes,” and only 5% answered “always.”

In the fifth scale Personal Relevance (Out-of-Class), student responses were mixed between “sometimes” and “always.” The students were asked whether “Mobile Learning allowed them to link class work to their life outside

of school.” the majority (41%) answered “sometimes,” 24% said “always,” and 18% said “often.” When asked whether “Mobile Learning was convenient (anytime, anywhere learning),” the majority of students (53%) answered “always,” 29% said “sometimes,” while 18% said “often.”

In the sixth scale, Student Autonomy (Own Decisions About Learning), students were asked whether “Mobile Learning allowed them to learn in their own way.” The majority (41%) said “always”; 35% answered “often,” while 24% said “sometimes.”

In the seventh and final scale, “Student Satisfaction with Mobile Learning,” the majority of students “agree” or “strongly agree” to being satisfied with their online courses. When the students were asked if they were “satisfied with their online class,” 53% “agree” while 29% “strongly agreed.” The majority (47%) of the students “agree” that they “enjoyed mobile learning”; 29% “strongly agree,” while 12% “Neither Disagree Nor Agree.” The students’ responses were tied with “agree” and “strongly agree” at 41%, when asked if “The online class enhanced their professional development”; 24% neither agreed nor disagreed. The majority (74%) of students “strongly agreed” that they would take another online course; 24% “agreed.” And when asked if “Questions concerning class were answered in a timely manner,” the majority (83%) of students “strongly agreed” and 17% agreed.

The first open-ended question asked students to “List benefits of Mobile Learning to students.” Some of their responses follow:

- It does allow me to keep my full time job, and I can do this on the off hours.
- Traveling round trip to traditional classes takes a lot of time from one’s day; I can balance work and school with m-learning; re: architecture – work and school complement each other.
- Being able to work full time and also attend class has been a blessing. It has also been hard to find enough time to devote to the classes. It is not a matter of time management but rather a matter of having enough time. I spend every second I am not at work on the computer learning. This puts somewhat of a strain on my family life and also any outside responsibilities.
- As a working professional, parent, and husband, mobile learning allows me the flexibility to balance my life. My undergraduate degree was earned traditionally and the 1.5 hours of daily travel was not productive.
- Allows me to work late at night, I’m a night owl of personality. Allows me to keep better track of assignments and due dates, accessible. Easy to source information quickly, and look at many facets of a focus.

The second open-ended question asked students to “List barriers of M-Learning to students.” Some of their responses follow:

- Software, communication method startup.
- You must be good at time management and “desire to learn.”
- Learning curve of software, due dates and times conflict with work schedules.
- One thing I think is missing is being able to have that personal connection with people. Learning the personality of the teacher and all they have to offer. Sometimes the personality of a class is lost in the black and white nature of the typed words.
- The D2L platform is very difficult to master. If that were streamlined with a D2L “orientation” class (by D2L), D2L could learn from students as well. That is needed!!
- Some problems with clarity of assignments and expectations. Some glitches in submitting assignments with audio. Some confusion with software issues, including some things being hard to find or access at times. The worst thing is trying to manage the time when our class meets online with Adobe Connect: students are not as organized and run long, making it hard to fit everyone in.
- The online study system D2L—too many tabs to click to get somewhere, confusing. It took me a long time to understand where I should look for assignments, too spread out. I missed couple of assignment because of that.
- It is hard to communicate with classmates and having online chats make it almost impossible to actually follow the conversation.

The third and last open-ended question asks students “How can M-Learning help students to learn?” Their comments follow:

- Video or audio presentations would be great.
- Being able to have some video or recorded lectures that are able to be watched at a student’s leisure can be of some value because they add some personal touch.
- Allows students to connect with teachers at all hours of the day. Allows students to work with others around the country who are facing completely other design criterion than you’re facing in the North East.

Both undergraduate and graduate students gave similar responses in their surveys. Both groups use the same mobile devices and learn in the same manner. Both graduate and undergraduate groups like the “anytime, anywhere” learning aspect of mobile learning and would like to improve the software.

Conclusion

M-learning is different from e-learning in that students individually or collaboratively can construct meaning (learning) for themselves, in a situated context, using their own mobile device. Mobile devices offer distinct advantages to education: portability, ubiquitous and affordable access, just-in-time learning opportunities, social connectivity and interactivity, and personal and individualized learning experiences. Students in online courses with high levels of interactions learn more and make better grades than students in similar face-to-face classes.

One-hundred percent of the undergraduate students owned laptop and smartphones, and used laptops most frequently for school work. Most students thought M-Learning was useful, saving time and giving them the ability to learn anywhere. Barriers to M-Learning included: internet connectivity, cheating, miscommunication, and lack of student motivation. Students said they learned best with visual instruction, followed by real world context.

Graduate students appear to be very satisfied with their Learner-Instructor Interaction. They are not as enthusiastic or satisfied with Learner-Learner Interaction, and they show mixed satisfaction for Authentic Learning. There is some satisfaction for Active Learning; some satisfaction for Personal Relevance, satisfaction with Student Autonomy, and satisfaction with their online classes. The scales that brought students the most satisfaction were Learner-Instructor Interaction, Active Learning, Student Autonomy, and Satisfaction with Mobile-Learning.

Graduate students list “anytime, anywhere learning” as one of the major benefits to mobile learning. Some of the barriers to mobile learning were software, missing personal connections, communication, and D2L. Students commented that video and recorded lectures along with online D2L classes would help improve mobile learning.

Having taught architectural graduate students face-to-face and online, I cannot say that the online class was better than the face-to-face class, because it would be comparing apples to oranges. The online students are significantly older, more mature, and had more professional skills and experiences. Many of the online students are registered architects and have full-time day jobs in architectural offices; one student has owned his architectural firm for twenty years. The online students liked quizzes on lectures with feedback and grading (to verify that they understand), while the face-to-face students do not. Neither

face-to-face architectural students nor online students are keen on working together.

It takes more time to prepare for an online course than a face-to-face course. Teaching an online course has changed the way I teach a face-to-face course: I now use more visual aids. Otherwise, I approach both courses in the same manner.

In conclusion, mobile learning and online classes are here for good and will increase in volume each year. Everyone has his or her own learning style(s); the best learning for architectural students includes visual and real world contexts, followed by verbal information. Interaction between teacher and student, real world problems, and making their own decisions about learning gave architectural students the most satisfaction with mobile learning. The next step for this research would be to develop D2L learning classes for students that provide more visual information, videos, and recorded lectures. Increase Instructor-Learner Interaction, as it is the greatest single item for mobile learning success.

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A Virtual Grand Tour of Europe: Bringing Students, Faculty, Donors and Local Citizens Together in an International Humanities Experience with Trajan’s Column

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Richard Lassell’s 1670 book *The Voyage of Italy, Or A Compleat Journey Through Italy* was the first to use the expression “The Grand Tour of Europe.”¹¹ It was an early account of 17th century European travel for those wishing to complete their classical education. Throughout the 17th and 18th centuries the journey had several routes from England over the continent to Naples, Italy, and was commonly undertaken by wealthy gentlemen in order to improve their understanding of historical monuments and finish their education. As rail travel widened in the 19th century, however, these journeys were no longer limited to the elite and a wider group of people were able to participate in the travel. The democratization continued into the 20th century making access to Europe possible for visitors from all over the world. In recent years, European travel has become widely available through filmed travelogues and even online communication systems. The latter has inspired a new form of The Grand Tour presented here using Trajan’s Column as a theme for research, online instruction and public presentation.

Foreign Travel and Online Instruction

My experience combining humanities travel research and course management systems began in 2005 while communicating with classroom students via WebCT from Egypt. Two years after, while delivering a paper at a conference at American University in Paris, I communicated with summer classes through Skype from the Pompidou Center in Paris via a projection screen located in my classroom. This new combination of online communication and travel led to another presentation entitled “Adventures in China: The Dragon Awakes” in which students followed my travels throughout China for a month in the Discussion area of Blackboard. They

requested photos from the journey to use in their individual projects and I later combined their projects into a master PowerPoint presentation that we presented as a travelogue to a large public audience.

Two years later, four student photographers accompanied me to Versailles, France to document the military aspects of the gardens of the chateau. As it turns out, Versailles is essentially a military fortification where garden planner André Le Nôtre designed his site plans around the footprints of castles, basilicas and other traditional architectural motifs. We photographed the gardens looking for footprints of castles and other hidden architectural motifs in the outlines of the flowerbeds, parterres, and bosquets.

Versailles is enormous, and photographing all of the gardens takes more than just one person a few days. The gardens easily span over a mile in each direction and photographing all of them would have taken an enormous amount of time for one person. By dividing the labor, we were able to photograph all the gardens from many different angles within ten days, and still see important historical sites in Paris. We focused especially on gardens portrayed in historical paintings of 17th century painter Jean Cotelle and sent pictures back to our school database thorough Blackboard that were later combined with extrusions in diagrams of the gardens. One garden in particular, the *Salle de Bains* yielded a particularly interesting castle outline as shown in Figure 1.



Figure 1. Computer recreation of castle emerging from the footprint of *Salle de Bains* (2011), Joe Liston. Versailles, France.

This still shot was part of a video given to the Research Center at the Château de Versailles showing the outline of a castle rising up out of the surface of the garden with a moat around it. Of course, the building was never there—but its

realization gives insight into the mind-set of the designer, André Le Nôtre, who tended to put traditional military patterns into his designs. It helps one to visualize today not only what was once there, but also why it was there—to celebrate the military implications of the Versailles gardens.

Last year, my research interests involved documenting the 70 or so apartments where Beethoven lived around Vienna for a comprehensive photographic catalog of the composer's residences. Few people are aware that Beethoven lived in so many apartments in Vienna and its surrounding suburbs. Many of them have been greatly modified or destroyed after years of urban renewal and the bombings of World War II and some are located miles around the city. It was clear that several photographers were needed to reach these places and photograph them within a reasonable amount of time. Four students traveled with me by bus, tram, subway and train in order to divide the work. We climbed small mountains and hundreds of tower steps in cathedrals to get good distant shots of Vienna—something one could never do alone (see Figure 2).



Figure 2. University of Arkansas—Fort Smith student photographers searching for the best view of a sculptural group at the entrance to the Hofburg Palace, Vienna.

Our photographs aimed to compare “then and now” overviews of the buildings and streets in the city from various angles and heights to compare with historic etchings depicting the original residences of Beethoven. Back at the university, one of our former students reconstructed a Beethoven dwelling that no longer exists. I located an antique watercolor drawing of the original building façade, and using Sketch Up, the student extruded a block of buildings upward from an 1811 map and laminated the façade upon it. Thus, we recreated a building that was lost due to the bombings of World War II.²

In addition to solving research problems, the photographs taken by our students are included in a Humanities Department copyright free database that

students can freely use for their PowerPoint presentations. We also used the photos to help make small PowerPoint presentations on the subject of Beethoven for a travelogue presentation at the end of summer. Since students from three different classes were involved, the combined research added accuracy and power to our final stage presentation. Our student travelers were not simply naïve wanderers with cameras, but rather researchers who uncovered lost urban venues and who gave back to the community in the form of a travelogue entertainment.³

While in Vienna, the students communicated regularly via the Discussion area of Blackboard. We arranged for a time when everyone—travelers and homebound students—could meet in the chat room to discuss our progress and our hoped for outcomes of the project. We also used the email function to transmit photographs to each other in the class.

Trajan's Column as a Candidate for Research

Trajan's Column offers the same potential as these earlier activities; it is an intriguing object that has received much research attention and analytical work. Situated in Rome, it allows travelers the opportunity to explore the city and create a unique travelogue on both the column itself and Ancient Rome. In addition to traveling, photographing, researching, communicating and taking a course, students would have as a general goal the production of a travelogue for our home institution—in which every student would have some part.

Located in Trajan's Forum just north of the Roman Forum, the column was completed in 113 C.E. and commemorates Roman Emperor Trajan's victory in the Dacian Wars.⁴ Apollodorus of Damascus probably served as the architect and the Roman Senate commissioned the project. This free standing column is famous for the spiral bas relief on its surface, describing two epic wars between the Romans and Dacians (101–102 C.E. and 105–106 C.E.) based upon the accounts of Trajan kept in a history housed in the adjacent libraries (now lost). The shaft is made from a series of 20 large Carrara marble drums each with a diameter of 11 feet that rise to a height of about 98 feet (125 feet if the pedestal is included). The 625 foot frieze winds around the shaft 23 times. Inside the shaft, a spiral staircase of 185 stairs provides access to a viewing platform at the top. Essentially the column is a military watchtower (lookout post) covered with archival recreations of war in the form of an unraveled scroll.

Trajan's Column was built to last and has withstood the test of time and earthquakes. However, casts of the frieze made over two centuries ago are now better than the original which has suffered the effects of weather and war. Indeed, the cast in the Victoria and Albert Museum (Figure 3) was made for those who could not afford to engage in The Grand Tour during the 19th century. At one time, the frieze may have been painted and there is evidence that it may have included metal attachments in the form of swords and other

military weapons that would have added to its aesthetic qualities. Any effort to save the column photographically or digitally preserves it for the future.



Figure 3. Cast of Trajan's Column (1864), M. Oudry. Victoria and Albert Museum, London.

Researchers have preserved the images in elaborate and careful detail in online and hard cover publications—especially those of the German Archeological Institute and the University of St. Andrews. The cartoon-like reductions of the entire frieze are especially interesting and valuable explications of historical aspects of the story.³ In recent years, moreover, the narrative has been translated into the film/video medium. A BBC video presents the narrative as a type of film storyboard and asserts that there is a kind of “film trailer” running up and down the north side of the column that summarizes its action. In another film done by UCLA, the column narrative is presented in segments with abrupt crosscuts.⁵

Trajan's column presents a story that has been compared to epics of the past, with characters of stature, wealth and power, and the conflict between good and evil. The narrative is divided into scenes that emulate modern film editing techniques. Thus, one author discusses the “cross cut technique” in juxtaposing the stories, another discusses the use of the bird's eye camera view, and still another points out a kind of “trailer” that summarizes the action. Since the column recreates documented war stories, it might be viewed as a

kind of archival film strip similar to World War II footage that was edited and compiled into films such as *Victory at Sea*. It seems that the designers wanted the viewer—whoever that might be—to get involved in the time, action and motion of the events. Thus, the story is presented in what were the latest visual techniques of the time, such as up-tilt perspective, high relief and 3D embellishments (metal pieces inserted into the hands of warriors). At the bottom, one can see the beginning of the story as soldiers prepare to load boats for travel—it can be interpreted as a kind of establishing shot. The story then spirals around with sequences of action similar to modern film storyboards. One can appreciate not only the parallel story development related to the Romans and the Dacians, but also the seeming use of rack focus to separate background from foreground objects, and even the idea of motion suggested by sequence of shapes such as those that appear in earlier friezes on the Parthenon.

Trajan's Column has been reconstructed online using Sketch Up, but the designer evidently became disinterested because only one side of the original relief was laminated over a basic tube shape. A complete version of the column like this could be done using 3DS MAX if images from all sides of the column were available and that would enable one to focus upon individual scenes and compare them quickly with other areas of the column. In fact, the complete column was presented in a UCLA realization during the 1990s, but the resulting film rotates the image far too quickly for analysis by the eye.⁶ Also, it shows the column using only one light source.

In all these efforts there is a tendency to photograph the reliefs straight on which belies the fact of the foreshortening. This distorted aspect of viewing has not yet been carefully portrayed in virtual reality. One can rightly ask the question how the panels were meant to be understood by the original viewer, and it is not naïve to suggest that these images could be photographed from many different angles with different visual results.

The column presents an interesting problem: are there any possibilities for aesthetic appreciation of this object that extend beyond its mere documentary qualities? The imagery of the column is in bas relief (with less than half of the image protruding from the surface) but figures at the top of the column are slightly more elongated than those at the bottom to account for the effect of foreshortening. Some researchers assert that the reliefs in the upper portion of the column protrude more than the lower ones in order to account for the up-tilted perspective seen by viewers below. As well, the upper panels are slightly larger than the lower ones to account for this visual discrepancy. Does this visual peculiarity suggest that there are hidden aesthetic aspects to the column, or is this merely an attempt to make the documentary images clearer?

From a distance, the column appears as essentially a watchtower with a dense texture inscribed upon its surface. But up close the meaning of individual panels becomes important. There are examples of what must have been the most extraordinary forms of illustration possible at the time of Ancient Rome. Teams of workers and designers didn't just imitate the styles,

types and genres of earlier relief carvers such as the Ancient Greeks; rather they experimented with new forms of perspective. Indeed, one panel clearly has an example of single point perspective in the background buildings. Whether by intuition or not on the part of the artist(s), one is driven to suspect that these illustrations must have been the Ancient Roman equivalent to what we now know as advanced film techniques.

Despite an enormous amount of historical and technical investigation, the relief images have not been examined as a reading pattern of light and dark shadows shifting throughout the day. In typical illustrations, light is shown coming from the right, from the left, or from above as the sun makes its way across the sky. However, the continuously changing reading pattern of light and dark has not been considered in research studies. If the visual pattern seen in one daylight period is different from the same pattern at another time of day, could this lead to a new appreciation of the visual patterns—especially close-up views? Does an angular photographic reading of the column from below or above give an impression that is different than a straight-on reading of the images as flat patterns? Is there a logarithmic character to the unwinding of the scroll image? If so, at what ratio, and how would that affect our interpretation of the column? Are there film techniques contained within the individual scenes of the column such as in the “film trailer” alleged to exist by one researcher?

In view of the possibility of comparing views from below, with those above, how do the same images compare? Are there inherent or hidden distortions in the carvings that enable us to make judgments about how these artisans wanted their work to be understood? How would this affect the placement of castings in a museum? Would they be tilted or placed higher on the wall to match their positions on the original column? In addition to its up-tilted perspective, the scroll of Trajan’s column presents objects in numerous perspectives. What effect do these various contradictory perspectives within each scene have on our perception of the scenes as a whole?

Recently some attention been given to the importance of Trajan’s column in the history of film-making—in its characterization as a filmstrip. Considering even a short list of film editing techniques, however, shows just how few of these have been discussed in connection with the column. If four photographers were stationed around the column and carefully photographed all sides from bottom to top—standing at fixed distances—one might perceive a different view of the images especially if the exercise were conducted over a period of days.

Trajan’s column stands as a good research object for interpretation in both a classroom and international travel experience. The impact of up-tilted perspective, changing daylight patterns, and techniques of film editing that one might find might lead to new interpretation of the column and its museum copies. The benefit of photographic research was seen several years ago when, in the process of digitalizing Michelangelo’s *David* in Florence, Italy, the statue was found to be several feet taller than had been previously indicated in all art

history textbooks.⁷ Any research that seeks to clarify, understand and interpret art in this manner is useful. Could the photography and computer realization of Trajan's column reveal anything of comparable significance? If so, it could have an impact upon museology—or the display of the Trajan Column casts in the Museum of Civilization in Rome.

Trajan's Column as an Object of Study

Apart from its potential as a research object, the location of Trajan's Column in a famous city containing many other historically and artistically famous monuments makes it an ideal candidate for investigation both here in the United States and abroad. The column could yield publishable results, and enable place-bound and traveling student photographers to cooperate in an interesting stage presentation for local patrons at the home institution.

Travel to famous monuments in Europe is no longer an aristocratic experience. Online communication, digital photography, and course management systems make the 17th century Grand Tour, formerly an exclusive experience, accessible to all—even to those who are unable to travel.

By going to Rome we would be, in a sense, recreating the Grand Tour taken by 17th and 18th century English aristocrats. The research director must change hats, so to speak, and become a tour guide for the traveling students while on site. They become the “traveling aristocrats” who are responsible not only for photographing Trajan's Column, but also for documenting the famous monuments of Rome that will appear in the travelogue back home. The research director thus becomes both a “tutor” and traveling friend—sometimes aided by onsite experts.

A Trajan's Column tour would cover two essential areas of Roman culture: 1) Ancient Roman monuments—including Trajan's Column, the Colosseum, the Pantheon, Baths of Diocletian, Palatine Hill, Circus Maximus, selected aqueducts, the Museum of Roman Civilization and 2) Catholic monuments such as St. Peter's, the Pieta, the Vatican Museums, the Sistine chapel and Michelangelo's “Moses” in St. John of the Chains church. All of these buildings would provide interesting stories that would hold the attention of audiences who would also want to see the fascinating photography of famous sites such as St. Peter's Basilica and the celebrated Sistine chapel.

The final travelogue might include a brief re-telling of the story of two wars on Trajan's Column, the information revealed by our close-up photography, a general tour of Ancient Roman monuments, and life in Rome today. The production might also include things such as the history of carving techniques in Ancient Rome, or the problems of casting and preserving such famous historical monuments.

Course Management Methods and Outcomes

A number of outcomes should emerge from research travel experiences of this type: 1) research results 2) student foreign travel experience 3) student communication experience with digital media 4) photos for a copyright free database and 5) a public travelogue.

With a theme such as Trajan's Column, areas of historical investigation can be divided up among humanities students into short PowerPoint presentations on very specific topics. These small presentations are later combined into one large master PowerPoint presentation that is shown to the general public at the travelogue. Of course, only the best of the photographs taken by our photographers are included in the final presentation to ensure a clear, comprehensive, but easily understandable stage production for the general public.

Traveling student photographers need equipment, scholarship money, language instruction and travel instruction. In addition, they need to understand the nature of the research and how their part contributes to the whole. Thus, there are applications, health interviews, committee reviews, awards of subsidies and preliminary meetings before embarkation to the foreign country. All traveling students must possess cameras with storage chips, tripods, tape measures and compasses.

Other travel issues include booking flights, hotels, etc. taken care of by the international travel office. Students need to have experience with electronic programs in their electronic smart phones such as email, GPS location systems and language translation programs that are essential to foreign travel these days. Rome is not as large as a city such as Chicago, for example, but it has a much more complex and irregular street plan.

In addition to carry-on equipment, our photographers need access to a computer center such as the one offered at the University of Arkansas Rome Center for Architectural Studies. This facility enables researchers to conduct classes and employ a computer lab to upload images into a database at the home institution. It also permits the use of computer programs such as Sketch Up to assemble photos of Trajan's column and laminate them onto background objects. Finally, internet access allows participation in Blackboard, the course management program that brings together all elements of the class. Communication with the home institution is possible through Blackboard, chat rooms and Skype but our smartphones also permit communication from the field—such as at Trajan's Column itself. Skype is especially useful outdoors if the researchers are near receiving stations.

Once in Rome, we photograph Trajan's Column and then visit the Civilization of Roman History Museum to photograph corresponding casts located there. We photograph the column itself from different angles at different times of day in different settings over a period of a week, and send the data to designers who could stitch the images together to determine if the light of day really does affect the perception of the images. As well, we visit the

other important museums and monuments of Rome to photograph them as needed for students back home who may use them for their individual PowerPoint presentations.

While traveling, teaching continues online with the home institution. Students proceed through the curriculum, taking tests and constructing individual presentations of 12 to 15 slides each on specific topics related to the travel. Whenever students need special photos for their presentations, they can access the Humanities database and/or communicate with our photographers to obtain the images they need. The individual presentations are sent to the instructor, graded, and consolidated into a large master PowerPoint presentation that may have as many as 250 slides in it.

All of this is possible through online course management systems. Electronic delivery facilitates not only the transmission of photos and communications with students but also effective tracking of discussions that can be incorporated in the travelogue script. Those students who are enrolled for credit must take tests throughout the course, so the course management system also allows for effective tracking of their progress as the research travel continues.

The master PowerPoint presentation needs a title card, maps, images and of course photographs. It is important to fix the location of Trajan's Column and other objects in Rome on maps for potential visitors or to remind those who have already been to Rome where things are located. Since casts of Trajan's Column have been taken at different times in London, Bucharest (Romania) and Rome, images of these sites should also be included in the presentation.

In both my recent trips with students, patrons at our home institution were informed of my research interests, the importance of historical travel, and how such travel benefits students from the local community. Benefactors are often looking for opportunities to give, and the trips were blessed with significant donations that enabled our students both to finance the trip and also to enjoy extra amenities such as attending the opera and going to professional concerts. These donated activities also add to the potential of the stage presentation when student travelers (now actors on stage) recount the uniqueness and richness of their travel experience.

I arrange ahead of time for talented music students to study with important musicians abroad. Last summer, for example, one of our clarinetists studied with Reinhard Wieser, principal of the Vienna Symphony Orchestra. This was an incredible opportunity and obviously something that will be part of Trevor Stewart's résumé. He later performed as one of the highlights of our stage production. Non-musical performances are equally important: the student travelers give their reactions to the whole travel experience by participating in a question-and-answer session.

Numbers are important when engaging in projects of this sort, so it is best to do it only when a sizable number of students (80+) are available in several classes of humanities. A large team brings unusual capacities to a project, and

new insights are often found by having a greater number of people working on the same theme. Course management tools enable students in all sections, whether place bound or time bound, to unite with the travelers in an ambitious project. Summer sessions are particularly advantageous for these projects because many students enroll for humanities online at the time and there are fewer conflicts in booking a performance venue for the travelogue.

The fact that a large number of students are involved in both travel and research means that the size of the audience will be considerable because the students want to see what part of their material ends up in the final production. Student participants will also bring friends and families. A travelogue that is created by its own audience helps ensure that at least 200 people will show up. Research thus emerges as a stage production with appropriate pre and post-concert music, travel photos and performances—all of it in addition to published research that may result from the study.

Thus, administrators, donors, faculty, residential students, traveling students, graphic designers and the general public are included in a total experience made possible only with a course management system. Division of the students into parallel sections provides synchronous and asynchronous communications, testing, grading and tracking—all necessary to achieve such a complex affair as a travel show for the public. Course management systems enable an instructor to keep regular courses moving along while adding an extra incentive for participation on everyone's part.

Perhaps you might wish to develop a Grand Tour like this at your institution—you only need an interesting theme or subject. It's one thing to force classes to witness research conducted by you or your department, but another thing entirely to involve them and gain the interest of the general public with a theatrical interpretation of your work. Course management systems and other digital tools make such things possible.

Notes

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² This image is included in our catalog of Beethoven's residences scheduled for publication in Spring, 2015.

³ The university helped support the effort financially and I donated my own Research and Creativity Award last year to support this study.

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⁷ Marc Levoy, Digital David Project, Stanford University, 1997-1999

Book Review

Harpring, Patricia. *Introduction to Controlled Vocabularies: Terminology for Art, Architecture, and Other Cultural Works, Updated Edition.* Series edited by Murtha Baca. Los Angeles: Getty Research Institute, 2013. 248 pp.

Words are power. In the digital age of Google searches, mobile internet, and access to myriad databases, finding the right word can instantaneously unlock a wealth of information at your fingertips. Patricia Harpring's book helps find those words that enhance our access to information. *Introduction to Controlled Vocabularies* is a comprehensive guide for developing and using controlled vocabularies for cultural materials.

Comprised of nine chapters, each is divided into distinct and useful subsections that are clearly labeled to allow for easy reference. Harpring's book is a meticulous, invaluable resource for the field of library science. It is oriented primarily to museum professionals working in art libraries, but her writing style is so logical and accessible that anyone with an interest in fine art cataloging and databases will find it helpful. The accessibility of the book is particularly impressive given the amount of highly technical language used throughout. Clear definitions of terms, supplemented by a thorough glossary, allow for quick navigation of the material. A host of tables, diagrams, and written examples are used to further explicate the text and allow readers to better visualize the ways in which controlled vocabularies are employed.

The first chapter, "Controlled Vocabularies in Context," gives an excellent overview of the purpose and importance of controlled vocabularies. Harpring defines a controlled vocabulary as "an information tool that contains standardized words and phrases used to refer to ideas, physical characteristics, people, places, events, subject matter, and other concepts."¹ In the case of her book, Harpring focuses specifically on controlled vocabularies for cultural objects in the fine arts, architecture, and other forms of visual art. The objective of a controlled vocabulary is to "allow for the categorization,

indexing, and retrieval of information.”² It is thus an essential tool for efficiently sharing and disseminating information and creating uniform standards that allow for the exchange of information between institutions. While the book is written in an easily digestible format, the intended audience is largely for museum professionals, art librarians, archivists, and visual resource specialists. Harpring provides an annotated list of existing guidelines and resources for how to construct a controlled vocabulary, and includes a brief discussion of the benefits of data sharing with other institutions.

The second chapter, “What are Controlled Vocabularies?,” helps to further define and explain the necessity of creating controlled vocabularies. Harpring emphasizes the importance of consistency in controlled vocabularies, while also allowing for variations to exist. Creating an effective controlled vocabulary is thus a careful balancing act. She notes that when building a controlled vocabulary for cultural objects, it is important to allow for uncertainty. Oftentimes the maker of a work of art is unknown, or the date of an object is only approximate. A good controlled vocabulary will allow for these uncertainties and clearly indicate them to users.

Harpring expounds upon the importance of using controlled format in addition to controlled vocabularies. A controlled format “refers to rules concerning the allowable data types and formatting of information”³ and, like a controlled vocabulary, helps to maintain consistency. Harpring concludes this chapter with a list of the various types of controlled vocabularies, such as subject heading lists, synonym ring lists (groups of equivalent words that can describe the same object), authority files (a way of cross-referencing preferred and alternate terms), and thesauri (which allow for context and the relationships between synonyms to be expressed).

In chapter three, the differences between the three main types of relationships are examined: equivalence, hierarchical, and associative. An equivalence relationship refers to all of the synonymous terms used to describe an object, including plural forms of a word, variant spellings, historical name changes, differences in language, and even near-synonyms. Harpring discusses the importance of designating preferred terms (or descriptors) from variants (also called alternate descriptors or “used for” terms). She also outlines ways in which to deal with homographs, and how to use qualifiers to eliminate ambiguity in terminology.

Hierarchical relationships describe terms with parent/child relationships, or those with broader and narrower associations. These are comprised of either whole/part relationships, or genus/species relationships. Hierarchies are then further subdivided into facets, and some terms may even be polyhierarchical.

Associative relationships include terms that are related to each other, but not exact equivalents or hierarchies. These can include words that are often confused with each other or even antonyms. Harpring advises to only use this type of relationship if the terms have a clear and direct association with each other.

The purpose of chapter four is to provide readers with all of the existing types of controlled vocabularies available for cataloging cultural objects. A helpful and thorough description of each of the following vocabularies is included in the text for user reference: The Getty Vocabularies, Chenhall's *Nomenclature for Museum Cataloging*, The Library of Congress Authorities, The Thesaurus for Graphic Materials, and Iconclass.

Harpring underscores the importance of using multiple vocabularies for indexing since no singular vocabulary is completely comprehensive. Chapter five discusses how to use and integrate multiple vocabularies effectively, and the pitfalls to avoid when merging vocabularies. Interoperability is necessary in order to utilize effectively two or more vocabularies and can be achieved through direct mapping (creating one-to-one correspondences between terms), using switching vocabulary (third terms that help reconcile the two original vocabularies), and semantic mapping (creating correspondences through "meanings or the nature of the relationships between" two terms).⁴ Harpring examines factors that contribute to the successful interoperability of vocabularies and how to create multilingual interoperability.

In chapter six, Harpring introduces the use of local authorities, which are derived from published vocabularies to ensure interoperability, but also accommodate the specific needs of individual institutions. Examples are provided of types of local authorities that can be useful to art institutions and presents readers with sources for terminology, suggested fields, and clear sample records for each one.

"Constructing a Vocabulary or Authority" provides practical information on creating and maintaining vocabularies, as well as a discussion of the purpose and scope of vocabularies. Creators need to consider whether the vocabulary is for local or broader use, establish standards for data structure, set the minimum information required for each field, decide how to deal with diacritics and imprecise information, and create clear editorial rules. This chapter concludes with information on how to display a controlled vocabulary. Each display should be customized to accommodate the three types of vocabulary users: creators, indexers, and end users. Harpring includes instructional screenshots of sample displays to help readers visualize how best to display data.

"Indexing with Controlled Vocabularies" defines indexing as "the process of evaluating information and designating indexing terms by using a controlled vocabulary that aids in finding and accessing the cultural work record."⁵ It is a process that is completed by specialized catalogers instead of an automated

system. Harpring includes an overview of the technical issues related to indexing, as well as some key indexing methodologies. She also details how to properly handle uncertain information about an object to avoid confusing end users.

Chapter nine outlines how to best retrieve and display data for users. Some of the retrieval types she discusses are browsing, utilizing search boxes, and using querying in a database. One of the most critical components of effective data retrieval is the normalizing of terms, which is the “process of removing or ignoring spaces, punctuation, diacritics, and case sensitivity in terms.”⁶ Some of the issues addressed in normalizing data are how to handle singular and plural terms, abbreviations, commas, articles and prepositions, as well as first and last names when retrieving the data.

The concluding pages of the book include an appendix with a list of selected vocabularies and other sources for terminology, an easily accessible, exhaustive glossary of terms used throughout the text, and a selected bibliography for additional resources.

Overall, Harpring successfully manages the near impossible task of taking highly technical terminology and explaining it to the average reader in clear, easy-to-understand terms. As a result, the text is useful to a wide range of library professionals, from seasoned catalogers to new interns just learning database proficiency. The text is rich, thorough, and meticulously organized, and will undoubtedly serve as the go-to resource in the field for many years to come.

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Notes

¹ Patricia Harpring, *Introduction to Controlled Vocabularies: Terminology for Art, Architecture, and Other Cultural Works, Updated Edition*, series edited by Murtha Baca. (Los Angeles: Getty Research Institute, 2013), 1.

² Ibid.

³ Ibid., 15.

⁴ Ibid., 91.

⁵ Ibid., 166.

⁶ Ibid., 192.

Book Review

John Aberth, *Plagues in World History*. Lanham, MD: Rowman & Littlefield, 2011. 243 pp.

John Aberth's small volume proposes a large overarching question: why study disease? Aberth, in a disease-by-disease analysis, examines the social and cultural responses to some of the major diseases in world history and compares the biological and physiological characteristics of each pathogen. Specifically, *Plagues in World History* explores bubonic plague, smallpox, tuberculosis, cholera, influenza, and HIV/AIDS. Each of the major diseases occupies its own chapter and the book serves as a series of interconnected case studies. To select his specific diseases of analysis, the author sought diseases with high mortality rates, worldwide diffusion, and a particular period of historical virulence. He argues that such an organization helps "make a unique contribution to the study of disease."¹ Although earlier studies of disease in global perspective were written largely as medical histories, this book's attention to the decades of exoticism and fascination associated with each of these different illnesses offers readers a more cultural approach to the history of diseases worldwide.

In his analysis of the bubonic plague, Aberth pays particular attention to the Black Death. He examines the Black Death through a comparative study between Christian Europe and the Muslim Middle East. The problem with such a binary, however, is that, throughout the narrative, the bubonic plague reads more as a story of western "winners" and non-western "resisters." It is surprising that the author omitted any discussion of state and secular attempts to control the plague, especially since such an analysis would have fit well with his decision to present the plague through a study of differing religions. Although the bubonic plague is only one of six epidemics explored, it receives considerable attention—about one third of the entire book (only rivaling the later chapter on HIV/AIDS in terms of length).

While most of the other epidemics receive less attention, Aberth nonetheless offers compelling insight concerning the social and cultural impact of each disease. Smallpox, the “New World Holocaust”² and the next disease to be analyzed, arrived in the American hemisphere following the Spanish conquest. This chapter can be read in conjunction with some of the more recent and enriching work on the history of smallpox in America, especially Michael Willich’s *Pox: An American History* (2011).³ Aberth’s main argument with respect to smallpox asserts that the disease led to the long-term cultural collapse of many indigenous peoples and civilizations. Though it is true that smallpox had devastating effects on the indigenous civilizations of present-day Latin America, his argument of a complete cultural collapse seems to reduce unnecessarily the agency of indigenous inhabitants vis-à-vis smallpox and their European conquerors. Indeed, scholars have argued that the Spanish Conquest was itself incomplete and did not result in complete cultural deprivation.⁴ His inattention to such scholarship represents a broader trend throughout the book of how the author treats the earlier historiography of global diseases. He tends to acknowledge previous scholarship only to denigrate it as flawed and problematic. He accuses earlier historians of an “intellectual cop-out”⁵ for their inattention to cultural and social forces shaping disease, yet fails to highlight the contributions of contemporary scholars who, like himself, seek to move beyond purely medical histories.⁶

Following the chapter on smallpox, Aberth focuses on tuberculosis. The chapter serves as a general history of tuberculosis. He traces the disease from the discovery of bacillus, through advances in prevention, and finally to treatments used before the rise of antibiotics. While the author details segregation efforts associated with other outbreaks (especially the bubonic plague), he does not underscore the role of tuberculosis as a key connection linking racial segregation and medical segregation, particularly in the late nineteenth-century U.S. south.⁷ Despite this omission, the chapter’s interdisciplinary approach makes it one of the book’s most enriching. Aberth devotes considerable space to analyzing the prevalence of tuberculosis in literary and film circles up to the present day. Here, readers get a vivid portrait of how diseases shape popular culture and, in turn, how cultural images mold popular conceptions of disease. While it is disappointing that he only employs such an interdisciplinary focus in his examination of tuberculosis, his approach nonetheless serves as a model for future scholars working within the humanities. If we truly wish to analyze the social and cultural history of disease, as Aberth does, it seems scholars must adopt an interdisciplinary approach to render a more complete sketch of how we have understood and

grappled with diseases that shaped lived human experience across time and place.

After his discussion of tuberculosis, Aberth examines the history of cholera. Cholera, one of the most frightening diseases in the nineteenth-century world, allows Aberth to analyze the role outsiders played as human poisoners and a population resistant to state attempts at disease management. This is an interesting angle of investigation and dovetails nicely with scholarship on the history of American immigration and the portrayal of “non-white” immigrants as “outsiders” and “poisoners” of American culture.⁸ Although there were a number of prevalent diseases throughout the nineteenth century, Aberth underscores the uniqueness of cholera: there is evidence to suggest that doctors were using cholera victims in anatomy experiments and even in armed revolution, such as the 1830 June Revolution in Paris. These are interesting anecdotes and they underscore the impact of diseases such as tuberculosis beyond purely medical boundaries.

Aberth next examines influenza. He limits the scope of his analysis to the period between 1918 and 1919, the moment of the greatest influenza outbreak in world history. Aberth classifies influenza as a disease that “broke all the rules”⁹ due to its high mortality rates, brutal suffering, and its unique “cytokine storm,”¹⁰ which caused lungs to fill with blood. The chapter on influenza takes on a truly global approach and traces the history of the disease around the world, with special attention to India—which has suffered the most due to influenza.

The final disease Aberth explores is HIV/AIDS, with this chapter (like the one on the bubonic plague) occupying roughly one third of the book. The chapter details transmission rates, disease patterns, and approaches to treatment. AIDS activism in the United States and Africa’s “AIDS crisis”¹¹ serve as the chapter’s primary focus. The chapter also utilizes comparative case studies of AIDS around the world, including the Caribbean, Central and Southeast Asia, China, Central Asia, Eastern Europe, and Oceania. This final chapter helps to answer Aberth’s overarching question: why study disease? As his chapter on HIV/AIDS demonstrates, we are still living through a global history of disease and human suffering.

Aberth’s book would serve as a useful text in any undergraduate course on world history or the history of disease. The bibliography is divided according to each of the diseases Aberth analyzes and can serve as an excellent resource for undergraduates as well as graduates and professionals who are less familiar with the history of disease. However, Aberth does not offer readers the “new history” of global disease he promised in his introduction.¹² While it would be impossible to write an all-encompassing book on global epidemics, certain major outbreaks (e.g. yellow fever, malaria, syphilis, and typhus) are curiously omitted from the story. The lack of a theoretical baseline, especially theory concerning the history of the body, prevent Aberth’s work from serving as the

“new history” he had proposed. Additionally, while the history of disease is a fundamental topic in world history, he tends to overstate his project. He notes, “This is no mere academic exercise. It is nothing less than a matter of life and death.”¹³ Yet despite its flaws, *Plagues in World History* brings the history of global diseases into greater historical focus and makes a convincing argument why this rich history deserves continued scholarly and popular attention in the years to come.

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Notes

- ¹ Aberth, John. *Plagues in World History*. Lanham, MD: Rowman & Littlefield, 2011, 14.
- ² *Ibid.*, 80.
- ³ Willrich, Michael. *Pox: An American History*. New York: Penguin Press, 2011.
- ⁴ Restall, Matthew. *Seven Myths of the Spanish Conquest*. Oxford: Oxford University Press, 2004.
- ⁵ Aberth, *Plagues*, 14.
- ⁶ *Ibid.*
- ⁷ Mark M. Smith provides an excellent analysis of tuberculosis and its role in southern segregationist rhetoric. See *How Race Is Made: Slavery, Segregation, and the Senses* (Chapel Hill: The University of North Carolina Press, 2006), 63-64.
- ⁸ Jacobson, Matthew Frey. *Whiteness of a Different Color: European Immigrants and the Alchemy of Race*. Cambridge: Harvard University Press, 1998.
- ⁹ Aberth, *Plagues*, 122.
- ¹⁰ *Ibid.*, 119.
- ¹¹ *Ibid.*, 163.
- ¹² *Ibid.*, 17.
- ¹³ *Ibid.*

Notes on Contributors

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Murray Goldberg worked for many years as a tenured faculty member in the department of Computer Science at the University of British Columbia. He left to become the founder and president of WebCT. WebCT grew to 350 employees providing the world's leading learning management system (LMS) serving 14 million students in 80 countries at 4,000 universities. Since that time, Murray has continued to work in eLearning as consultant and company founder. Most recently, Murray developed a learning management system

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