Digital Learning in an Undergraduate Context: Promoting Long-Term Student–Faculty Place-Based Collaboration

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Abstract

In this essay, the authors present a case study of how an ongoing, multi-faculty, interdisciplinary DH project focused on the Susquehanna Valley in Pennsylvania has created, and continues to explore, ways in which students can excel both inside the classroom and outside. These DH projects involve undergraduates working with faculty on an unfolding expansive research project that affords otherwise unachievable opportunities for undergraduate student engagement, the development of new skills, and meaningful ongoing interaction between the institution and community that have, in turn, furthered the scope and scale of the project.

In the myriad recent discussions of the place, goals, and practices of Digital Humanities in the undergraduate curriculum, there is a definite and marked increase in focus on teaching Digital Humanities (DH); namely, how do we effectively port the tools and methodologies with which we work as researchers into the undergraduate classroom. Clearly, the question has shifted from 'DO we teach Digital Humanities to undergraduates?' to 'HOW do we teach Digital Humanities to undergraduates?' For those of us who spend a great deal of our time thinking, writing, and developing best pedagogical practices for DH, these questions are not new. Still, we contend that while the expanding literature in the field is incredibly valuable in terms of establishing course- and assignment-design, learning goals, and outcomes, the scholarly focus of undergraduate DH teaching in the literature remains primarily at the course level.

While it is recognized that the most compelling pedagogical experiences bridge the divide between semesters—and even years—of study at the undergraduate level, there has been little examination to date of how digital learning affords particularly effective forms of promoting long-term student engagement, challenging faculty as well as students to consider course matter from new and provocative vantage points. These opportunities for reconsideration, beyond the semester-centric engagement with digital tools and methods, support the development of habits of mind among undergraduates that are parallel to those encouraged in more traditional Humanities pedagogies. In fact, course integration is actually only the beginning of the undergraduate DH experience, and those habits of mind require ongoing participation in DH-oriented research projects.

In our article we intend to demonstrate the following:

(1) that undergraduates at all course levels should be exposed to DH tools and methods and that we as instructors should plan for these courses to be generative;
that learning experiences beyond the classroom provide compelling collaborative scholarship opportunities for students; and
(3) that particularly rewarding points of engagement can grow out of interdisciplinary, cross-institutional, place-based humanities projects that encourage student-driven DH engagement.

To substantiate these arguments, we will present a case study of how an ongoing multi-faculty, interdisciplinary place-based research project at Bucknell University focused on the Susquehanna Valley watershed has created and continues to explore ways in which students can excel both inside and outside the classroom, on campus and in the community, and increasingly in DH registers.

1 DH at Bucknell

Over the past 3 years, Bucknell University has supported an increasing emphasis on DH approaches to teaching and research, with expanding support for faculty incorporating DH at the course-design level. In addition, opportunities have been identified to support undergraduate student participation in Humanities faculty digital research both during the academic year and during summer months. The model for much of this DH engagement and expansion is the Stories of the Susquehanna research project and the ways in which faculty and students across disciplines collaborate to learn and engage in meaningful place-based public humanities research.

2 Stories of the Susquehanna

Stories of the Susquehanna Valley (SSV) began in 2009 as a unique research project focused on this particular environmentally challenged watershed. From the outset, the project utilized multimedia scholarship that was designed to articulate, highlight, and draw from stories that form the region in which Bucknell is situated, and also to empower our communities and highlight our ecosystems. Initiated through the collaboration with agencies outside academia, this project in environmental humanities, community studies, and natural history focuses on the question of what constitutes a thickly mapped eco-region as a confluence of cultures and ecologies. The project emerges from long-term planning and the expertise of Bucknell scholars in collaboration with members of the community. The project has already garnered US Federal recognition of the cultural importance of the Susquehanna River through its designation as a National Historic Trail under the umbrella of the National Parks Service. Its partners include regional and national conservancy groups, Native American, specifically Lenni Lenape and Haudenosaunee leadership, and faculty from other colleges and universities in the region.

In this project, Bucknell undergraduates work alongside faculty members and staff as research assistants on an unfolding, expansive, multi-nodal platform that affords otherwise unachievable opportunities for research-based learning. Student work has involved a breadth of DH environments including environmental, historical, and cultural Geospatial Information Systems (GIS), more expansive approaches to geospatial visualization, as well as textual and network analysis and artifact curation. Students develop new skills and participate in meaningful ongoing interactions between their home institution and the surrounding community that in turn further the scale and scope of the project.

Of significant importance to the structure and success of SSV is the academic mission of Bucknell University, a private liberal arts institution in central Pennsylvania to foster ‘a residential, co-curricular environment in which students develop intellectual maturity, personal conviction and strength of character, informed by a deep understanding of different cultures and diverse perspectives’. Reflective of the importance of interdisciplinarity to liberal arts education at Bucknell is the Comparative Humanities program, which promotes at its core the education of students to compare intellectual materials of different or opposing types, whether textual or material; narrative or non-narrative; artistic or analytical. The program provides a natural curricular home for DH at Bucknell. The SSV project fits squarely within the mission of Bucknell and Comparative Humanities. Often beginning with formal
coursework, students involved with SSV frequently take on independent study projects and serve as grant-funded research assistants with faculty.

3 Curricular Overview

Faculty in Comparative Humanities, English, Geography, and Environmental Studies have taught a slate of courses related to issues vital to the interpretation and conservation of the environmentally impaired Susquehanna River region. These courses form a *de facto* core curriculum designed around the region and consider questions of environmental effects on regional resources, the eradication of the traces of Native American history and culture as a result of European immigration and settlement, and economic under-investment in post-industrial rural towns.

In Fall 2011, Principal Investigator Faull offered ‘Nature and Enlightenment’, an interdisciplinary seminar that examined the period of the anthropocene on the Susquehanna River in the North American Colonial period. Embedded in this course was the integration of spatial thinking; all students were required to complete an interactive mapping assignment as group mapping projects. The mapping component of the course worked well and some of these course projects became the basis for further work in GIS. This component also provided pointers to more complex and interesting stories that could be told and more sophisticated ways to embed spatial thinking into future classes.

Parallel with this class, SSV co-PI (Principal Investigator) Alf Siewers in English offered a course entitled ‘Visions of the Susquehanna’ that examined early literature of the Susquehanna region. Here students worked on digital projects relating the literary works of James Fenimore Cooper and Susan Fenimore Cooper to the geography of the watershed, as well as focusing on the legacy of Joseph Priestley in the valley.

In Fall 2012, Faull and Siewers team-taught an Integrated Perspectives class, ‘Susquehanna Country’, that drew on the materials and methods of the previous courses. This course again examined the interconnectedness of environment, philosophy, literature, and human communities in the Susquehanna region but moved forwards into the 19th century, incorporating British and early American literature, inviting students to study indigenous ideas of nature in relation to 19th-century visions of the Susquehanna as a type of ‘new Eden’. Digital investigations were reinforced through a set of field trips, on which students engaged with contemporary Native American communities and current environmental issues and conservation projects.

From these three courses, several students emerged as SSV interns, who then continued over the summers of 2011–13 to produce high-quality digital artifacts for outside funders such as the Chesapeake Conservancy, the National Parks Service, and working in collaboration with National Geographic, which in turn advance new pathways for students to learn about the region and its historical and cultural importance.

In 2014–16, three new courses focus on aspects of Stories of the Susquehanna research and are rooted in DH methodologies that provide rich ‘teachable technology moments’ (Ficke, 2014, p. 203) and emphasize the importance of keeping students focused on the critical labor that rigorous humanities research requires, and that digital resources sometimes de-emphasize (Fyfe, 2011, p. 12).

The first two are linked sections in a new 100-level course in Comparative Humanities. The courses are open to first- and second-year students and were first offered in academic year 2014–15. The course integrates research- and place-based learning, ‘reinforcing the skills and strategies that are hallmarks of humanities education’ (Ives, 2014, p. 221). The course is founded on core Comparative Humanities learning goals that emphasize the methodology of comparative and critical thinking, and the acquisition of DH methods of thinking and doing.

These courses draw on approaches prevalent in some language and composition curricula, in which students build technical competencies across the semester rather than in discrete assignments. What is more important, and what reinforces the unique nature of this approach to teaching DH at such an early stage of undergraduate education, is that while the outline of both courses is laid out in the same pattern (textual analysis and encoding, network
visualization and mapping) each course uses as its core ‘text’, a particular archival collection with which the course instructor is engaged for scholarly research and both of which are associated with SSV.

The first of these, Faull’s ‘The Humanities Now!’ uses unpublished manuscripts from the Moravian Archives in Bethlehem, PA as the basis upon which students can develop multiple DH skills (mapping, network analysis, text markup, and digital editing). The second course, Jakacki’s ‘Digging into the Digital’, is built upon an unprocessed collection of Civil War era journals and letters written by James Merrill Linn housed in the Bucknell University archives. Each instructor comes to the course with her own digital expertise (Faull has concentrated on GIS and questions of spatialization in her research into the Moravians and other SSV projects, more broadly; Jakacki has focused on (Text Encoding Initiative) TEI-based textual analysis for her scholarly research).

In the first semester, the sections were in effect co-taught by Faull and Jakacki across sections. This is an ambitious approach to teaching any subject and one that requires extra commitment and attention to course design and assignment development by both instructors. The challenges associated with teaching courses in this way must be considered thoughtfully as the collaborators continue to refine modular design and assignments. Whereas more traditional team teaching environments rely on instructors sharing the same learning space at the same time, the establishment of two linked courses running asynchronously but in parallel means that each class is taught independently. The classes are kept small (ten or under), a number that provides an environment in which students can form an important dynamic connection with their instructor and their classmates that is crucial to the development of trust required for learning the unfamiliar.

Students come from a variety of disciplinary backgrounds, primarily Science, Technology, Engineering, and Mathematics (STEM). In addition, almost half of the total students in both sections were L2 students. Faull and Jakacki believe that the opportunity to introduce non-Humanities majors and L2 students (in particular to those in Engineering and Computer Science programs) to humanistic subject matter through courses such as these is central to the academic mission at Bucknell.

Students completed manuscript transcription of diary excerpts (upon which the rest of the course relied) and undertook assignments in distant reading and contextual research, both designed to encourage them to consider how the diarists’ observations can be revealed through linguistic patterns and how or whether their experiences reflect the times in which they are writing. This was followed by an assignment that used TEI-markup to produce digital editions of these diary excerpts and introduced students to the importance of creating a robust prosopography to help them as they moved on to network visualization and mapping modules.

This ambitious, scaffolded approach to teaching proved to be highly successful in engaging students in the development of a unique DH project. It also provided students with the methodologies to develop further DH projects outside the classroom. For this reason, our pedagogical experiences are of value to other instructors considering how to teach such a course (whether it be an undergraduate DH methods course, a DH research-based learning course, or some combination of the two). Student feedback and evaluation suggests that while first- and second-year students might be initially uncomfortable with learning methods and subject matter that are nontraditional and acanonical, they quickly gained confidence in experimenting with tools and finding their voices when engaged critically with DH methods and core texts. Students commented favorably on the open discussions that helped them to understand the material, and appreciated the project-based nature of the class and the opportunity to complete reflective blog posts after each assignment. Preliminary assessment data show that 85% of students achieved the learning goals of the course at a grade level of B or above. This assessment was accomplished through a combination of graded assignments (transcriptions, blog posts and reflection essays, digital editions, maps) and completion marks (collaborative timelines, submission of abstracts, attendance at Bucknell’s DH conference).

In Spring 2016, a 200-level Integrated Perspectives course will be co-taught by Faull and
Siewers. As a component of the new Core Curriculum for Bucknell’s College of Arts and Sciences, this course has the learning goal: ‘Students will recognize, construct, and evaluate connections among different intellectual methods, ways of learning, and bodies of knowledge’. This course is a completely redesigned offering of ‘Susquehanna Country’. Faull and Siewers have rebuilt this public humanities course with a much stronger integration of specific DH tools at the assignment level. While Faull’s experience with the 100-level course will help to situate the DH components more organically in the course’s design, the new iteration of the course is predicated on a deliberate assessment of ‘Susquehanna Country’ and the recognition that DH offers a valuable springboard to enhance student assignments. The targeted development of DH projects as central to the syllabus teaches students the importance of best-practice data and metadata gathering and organization across multiple digital platforms (including the addition of mobile GIS and augmented-reality applications), in which students can develop connections between multiple digital, analog, textual, historical, and cultural environments. Student work produced for this course will be published on the SSV research project website, reinforcing for the students the importance of their work in a professional research context.

4 Faculty-Student Engagement
Beyond the Classroom

A particularly valuable area for ongoing pedagogical engagement is in developing this type of place-based project that also enlists local communities. And yet, such rich and nuanced considerations of local place, culture, and environment call for extended student engagement over time and even across years of undergraduate study, ideally working with a number of faculty to inculcate the importance of ideas and place. Thus, the traditional classroom model for the execution of such DH place-based learning is inadequate. Extending the classroom outside (both spatially and temporally) allows for the development of rich, deep knowledge in both digital tools and research subject matter. Indeed, extending the faculty–student collaboration to include students from outside traditional humanities departments also reifies the value of interdisciplinary research at an early level and reflects the professional DH research model employed by larger-scale projects.

This is where SSV continues to develop and transform itself, its principal investigators, collaborators, and undergraduate research assistants through public humanities projects. As stated above, motivated students have moved beyond the classroom to continue work on specific DH projects in the summers. Funded through the Chesapeake Conservancy and the more local Degenstein Foundation, and working to produce an online interactive cultural and historical mapping the length of the Susquehanna River, this summer program has engaged over twenty-five students since its inception. Working in GIS, students have produced museum-quality interpretive materials that have been instrumental to the increased recognition of the Susquehanna River Corridor as a heritage site (Bucknell, 2012). In addition, students have had to learn to work to professional standards for the National Park Service, the Chesapeake Conservancy, and other local Non-Governmental Organizations (NGOs), and also develop intercultural sensitivities to work with Native American nations. The success of this program in training undergraduate DH practitioners can be measured in terms of both ‘deliverables’ and also placements of our students in graduate programs, professional positions in corporations such as the mapping division of Google, and agencies promoting heritage interpretation.

Stories of the Susquehanna continues to generate new knowledge and new teaching and research opportunities that will again expand the scope of the broader research platform: born-digital projects that will challenge PIs to find new ways to involve students at Bucknell and other institutions during the summer months and also, increasingly, the academic year.

Participation of students in the Humanities 100 courses provides an important opportunity to engage in research experiences that directly affect the development and design of research projects
within the classroom environment, giving input and feedback that is invaluable to the research team (Thomas and Solomon, 2014, pp. 214–15). Student research beyond the classroom that grows from the SSV-related courses reinforces the model for collaborative DH teaching and research at Bucknell, initiating faculty–student engagement with subject matter in the classroom and rooting ongoing generative research in more creative associations: merit fellowships, summer research stipends, independent study projects. These projects also reveal how DH components are crucial to the empowerment of students as agents of public humanities. It is conceivable that these opportunities could evolve into honors theses or other culminating capstone experiences, completely integrating Humanities, Social and Environmental Sciences with DH methodologies.

Undergraduate DH is well suited to a liberal arts environment committed to developing progressive forms of student academic research. Bucknell’s support for place-based research exemplified by Stories of the Susquehanna has provided the foundation for a transformative approach that demonstrates how comprehensive the undergraduate DH experience can be, with introductory exposure in first-year courses leading to long-term student collaborations with multiple faculty and staff throughout a student’s time at the University. Such opportunities require the confidence of faculty and administrators to incorporate students in this way, and the commitment of resources—both in terms of personnel and infrastructure. But, as we are seeing at Bucknell, this confidence and commitment delivers transformative experiences for all involved and provides a robust model for how the DH can be incorporated at the curricular levels at undergraduate institutions.

References


Notes

1 At DH2014, several paper sessions considered digital pedagogy in some fashion. In particular we consider the paper given by our co-panelists Earhart and...
Toniesha (2014) to demonstrate a sophisticated approach to collaborative teaching in the classroom.

2 CEA Critic, Volume 76, Number 2, July 2014.


4 Tanya Clement (2012, pp. 371, 384) observes that early integrations of DH into the undergraduate curriculum focus on tool training rather than development of nuanced humanistic digital habits; similarly, Simon Mahony and Elena Pierazzo (2012, p. 223) consider the tension between teaching tools and digital methodologies.

5 In 2012, Comparative Humanities faculty member John Hunter invited Rebecca Frost Davis and Bryan Alexander, who have both consulted extensively with liberal arts institutions (see in particular 2013), to campus to help make recommendations for how DH might be effective in this specific liberal arts environment. Consequently, Bucknell hired Digital Scholarship Coordinators, created a Digital Scholarship Center, and applied for and received a major multi-year grant from the Andrew W. Mellon Foundation to support digital initiatives.


7 Bucknell University Mission Statement. http://www.bucknell.edu/x72732.xml

8 Katie Faull’s “Humanities Now!” course website. http://thehumanitiesnow.blogs.bucknell.edu/