Digital Humanities Teaching, Research, and Service at Pepperdine University

2015 Innovation in Technology and Learning Grant

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Introduction

This is a case study for the 2015-2016 Innovation in Technology and Learning Grant established by the offices of the Provost and the Chief Information Officer and administered through the Technology and Learning department.

The case study consists of four major parts: 1) A history of the status of Digital Humanities at the start of the grant period; 2) the work accomplished during the grant period; 3) work that has been accomplished on the Digital Humanities since the completion of the grant period with an emphasis on curricular initiatives; and 4) next steps for Seaver College to build long-term sustainability. An Appendix is also included with additional information to facilitate faculty research and teaching in the DH.

Background

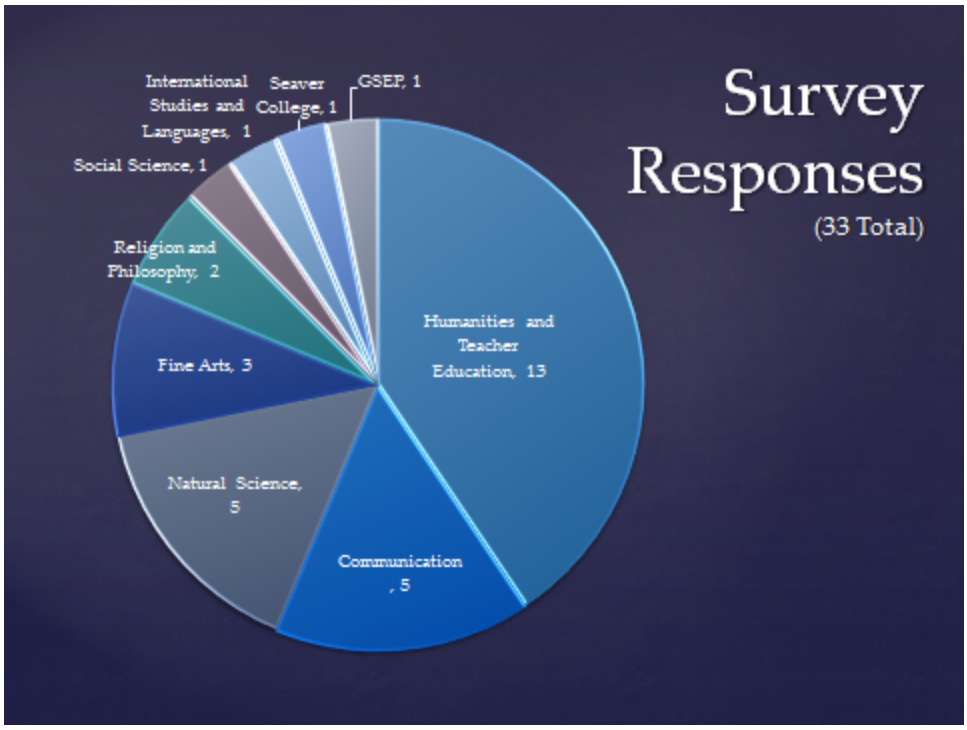
For this grant, we requested software, training, and IT support to augment a new course that was offered in Fall 2015 (Introduction to Digital Humanities: Finding, Using, and Creating Electronic Texts) as well as a set of parallel events for faculty, including a workshop, lecture, and roundtable.

The immediate goals of this course and workshop series were to introduce students and faculty to DH theories and methods (e.g. text analysis tools, online editions, language databases, etc.). To that end, in November 2015, Matthew Fisher (UCLA) spoke to a group of more than 50 people about the "Ethical Digital Humanities." In December 2015, Jennifer Smith led a faculty workshop on using WordSmith Tools for research and teaching with about eight faculty and staff members in attendance. In March 2016, Ron Cox (Religion), Lauren Kilroy-Ewbank (Art History), and Jennifer Smith (English) spoke at a Humanities and Teacher Education Symposium on "What are the Digital Humanities?" with a dozen people in attendance. The long-term goals of the grant were to establish a Digital Humanities community on campus that was invested in research and teaching in this area.

Outside of the grant purview, but as a means to facilitate this work, we also established a Digital Humanities Listserv[1] and a website.[2]

At the beginning of the grant period, we also conducted a faculty/staff survey of knowledge about and interest in the Digital Humanities. This survey (Appendix A) was distributed electronically to faculty at all of the Seaver Divisions, although responses naturally clustered in the Humanities and Teacher Education Division. This is the division most likely to be concerned about the growth of the Digital Humanities field. The following overview is based on an analysis of the data gathered from this study.[3]

[1] DIGITALHUMANITIES-L@LISTSERV.PEPPERDINE.EDU
[2] http://seaver.pepperdine.edu/humanities/student-opportunities/digital-humanities/default.htm
[3] Additional data from the survey are available by contacting Jennifer Smith, jennifer.smith@pepperdine.edu.



Overview of Pre-Existing Knowledge, Culture, and Assumptions

Establishing a Digital Humanities presence at Seaver College has had both its challenges and opportunities. A lack of awareness of or education about the Digital Humanities is the largest hurdle and one which we have sought to address during the grant period. On the one hand, while the majority of faculty surveyed thought that the Digital Humanities would play a key role in the future of Humanities teaching and scholarship, very few faculty were actually involved in or had completed Digital Humanities projects themselves, and even more problematically, many did not know enough to proffer an informed definition of the Digital Humanities. For many, their engagement with Digital Humanities projects has been primarily in terms of accessing materials through databases rather than creating digital surrogates and/or manipulating those digital surrogates for software assisted data-analysis. That is, most faculty use Digital Humanities scholarship to facilitate their own research and teaching but are not themselves producers of those digital projects. For example, one faculty member defined the Digital Humanities as

> Any traditional Humanities discipline in which either research is conducted through digital means OR in which research is published/presented via digital media OR in which digital methods/tools are extensively used in pedagogy. It can be as simple as using a computer/internet/browser/search engine combination to find an image to insert into a ppt for a class on Shakespeare.

Yet, accessing digital resources falls far short of realizing the potential of Digital Humanities training and thinking, which must include not just access, but dissemination of digital surrogates through scholarly activities like the coding of primary source editions with critical apparatus and commentary and the creation of new knowledge through analytical activities like GIS mapping or text visualization. Some faculty incorrectly assume that the use of the digital or the internet for Humanities work is the same

thing as the Digital Humanities. Yet, neither of these activities in and of themselves are scholarly disciplines with a critical philosophy and the potential for new knowledge creation.

Rather, the Digital Humanities is an interdisciplinary area of study that integrates the use of technology with traditional Humanistic areas of inquiry. It is the most rapidly growing field within the larger Humanities because its methods encourage collaboration, technical skill, public accountability, and project-based learning. These qualities combined with the values of Humanistic study develop individuals ready to transfer knowledge gained in the classroom into a larger public sphere as teachers, writers, and researchers. DH is distinct from other forms of traditional research in that it marshals the vast new resources of the technological era to pose and answer questions that would not have been possible before. For example, researchers and students now have the ability to manipulate and analyze millions of pages of electronic texts that span different historical eras and different countries through freely available online sources like Project Gutenberg or Google Books.

In addition, to problematic or incomplete understanding of the Digital Humanities, the initial grant survey also revealed some fear about the role of the technological in a domain historically free of these tools. As one respondent said,

> One concern I have is that we will come to have an expectation that [all] courses will include DH content or methods. For a number of reasons, I'm deeply skeptical about the use of digital media and methods as they now exist in the humanities. These technologies have, I would argue, developed along a fundamentally inhumane trajectories, and so their ability to speak to the humanities normally, in my opinion, amounts to a truncation or narrowing of what is humane.

This response represents one common misperception and another common and justifiable concern. The misconception is the assumption that conflates technology and the Digital Humanities. The second concern--that the tools are inherently inhumane--is a legitimate and well-documented worry but is fundamentally a misconception, as well. To the first, it is important to emphasize that the Digital Humanities as a field is not simply the use of technology but is driven both by theories and values of praxis. To the second, like any field, these methods can be used wisely or harmfully. In fact, this very potential for instrumentalizing Humanistic research has yielded a rich array of scholarly literature interrogating that very tendency[4] and indeed, any complete training in Digital Humanities scholarship would include a component that addressed this possible outcome. Such vigilance is vital for the health of the field because this respondent's opinion, while not strongly represented in this study, is far from rare.

Anecdotal evidence would imply that these concerns are common. In fact, the anxiety surrounding the role of technology and how it may change the classroom, as well as professional expectations for training, may be associated with the broader belief in certain academic circles that technology harms

[4] Alan Galey, "Networks of Deep Impression: Shakespeare and the History of Information," *Shakespeare Quarterly* 61.3 (2010): 289-312, *Project MUSE*. <https://muse.jhu.edu/> and Matthew Fisher, "Making it Count" Nov. 20, 2015, Pepperdine University, Malibu.

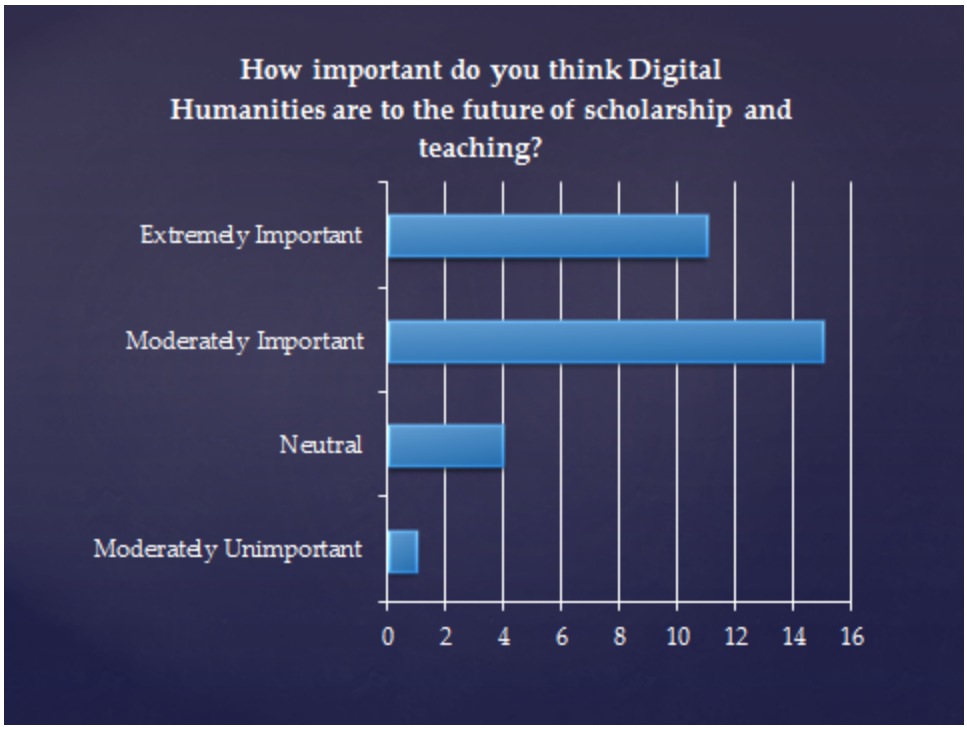
rather than aids the educational process.[5] As will be further elaborated on below, it seems that the best approach to allay these fears will be to focus on the Digital Humanities as an elective option and a minor. My own experiences teaching the Introduction to Digital Humanities course for General Education students also supports the notion that Digital Humanities training should never precede traditional forms of Humanities analysis and interpretation.

Despite some of these challenges, however, other faculty have shown themselves to be interested and open-minded about the field as a whole. For example, one faculty member remarked:

> I think DH has the potential to be an energizing force at Pepperdine. It would encourage more faculty members to collaborate between disciplines, even those that many view as outside the humanities--like computer science. I think faculty could learn various skills to use in their classes, but also to hopefully help them develop new scholarly opportunities that have the potential to reach broad audiences. We would certainly be offering more cutting-edge opportunities for students in a small liberal-arts environment, and I imagine students would soon seek out DH classes because of the new approaches and questions it offers, as well as the skills it develops that students can use regardless of their major. Ideally we would have a major, but perhaps it is more realistic to begin with a minor and grow a program over time. It would be wonderful to see several departments offering classes that engage with the DH to provide a well-rounded view of what DH means.

The hopes expressed in this response are not unmerited. While it is important to note that faculty were initially unsure about how exactly to define the Digital Humanities, this ignorance did not correlate with whether or not they thought that the Digital Humanities would be important to the future of scholarship and teaching. **An overwhelming majority--79%-- of the faculty surveyed believes that the Digital Humanities will be either moderately important or very important to the future of scholarship and teaching.** To the extent that job listings can be a means of forecasting the general direction of the professional field, it may be useful to note that forty-five positions explicitly listing that Digital Humanities is a necessary or desired skill are now advertised on the Fall 2016 MLA Job List. By contrast only 14 positions list Shakespeare as an explicitly desirable area of expertise.

[5] Pam Mueller and Oppenheimer, Daniel, "The Pen Is Mightier Than the Keyboard: Advantages of Longhand Over Laptop Notetaking," *Psychological Science* 25:6 (2014): 1159–1168.



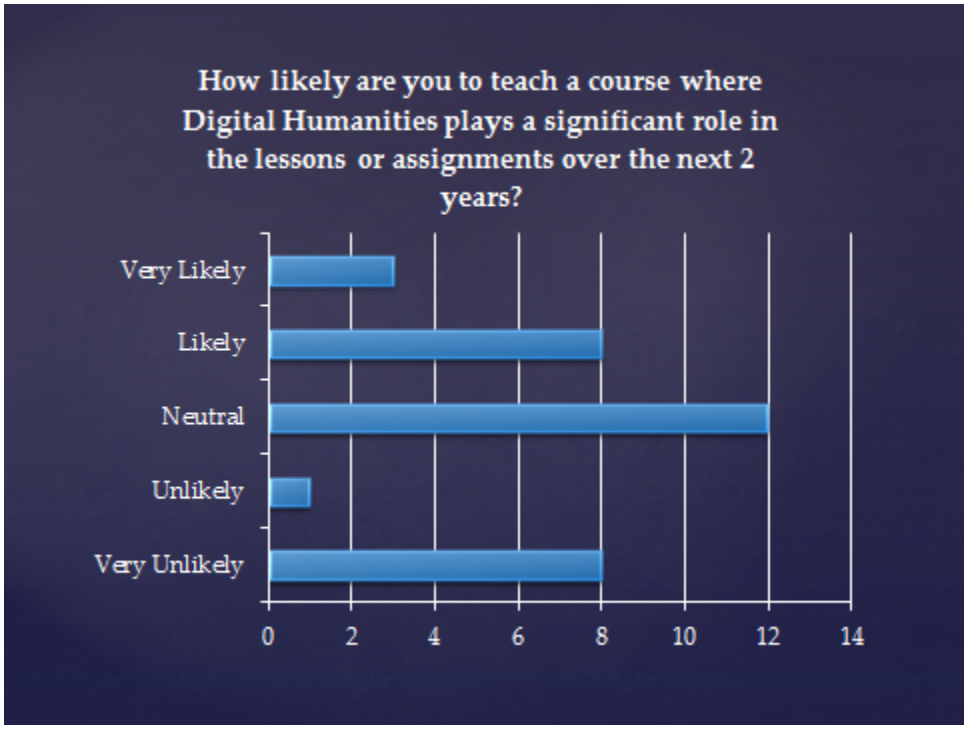
This simultaneous sense of both urgency and confusion is understandable given the relatively recent establishment of Digital Humanities within research universities. In just over a decade, the field has seen the establishment of its first international professional organization, the Alliance of Digital Humanities Organizations (2005), the publication of a first standard textbook of readings, Blackwell's Companion to Digital Humanities (2005), and its first peer-reviewed journal, Digital Humanities Quarterly (2007).

In fact, Seaver College may be even better situated to take advantage of the growth in the Digital Humanities than most other liberal arts colleges. As a small liberal arts college, Seaver has many advantages that research institutions do not necessarily have and ones that will enable a "well-rounded" approach to Digital Humanities instruction. Namely, the presence of a Computer Science program that is attuned to the values of the liberal arts and is willing to engage with Humanities programs is of special value. Given this openness to interdisciplinary cooperation, Humanities students will be able to work with Computer Science students without a watered down curriculum. In fact, a healthy Computer Science program eager to collaborate with Humanities programs is one of the ways that both disciplines will be able to stay healthy and responsive to the changing professional and academic needs of the students.

Internal organizational structures and attitudes are also on the whole supportive of the interdisciplinary cooperation that would be needed for the Digital Humanities to flourish at Seaver. Historically, Pepperdine has supported a number of different efforts for the use of digital tools for teaching--for example, the work performed by the TechLearn team and the Summer FacProfDev training series. Religion professor, Ronald Cox has led a course, "Money, Power, and the Holy Land," in which Reflectance Transformation Imaging was used to digitize and study a collection of 1200 coins from the Holy Land. In this respect, Pepperdine faculty and staff may fall into the realm of those who, as recently

described by Adeline Koh, are already digital humanists but just don't know it yet.[6] Specifically, Pepperdine faculty seem to have a strong propensity for the subfield of Digital Humanities known as Digital Pedagogy. This digital foundation among many faculty members is a very positive resource, because it shows a general inclination towards both experimentation and regular innovation in the classroom.

As the stewards of the print and electronic collections library staff are also some of the most informed members of the Seaver body about the conversion, maintenance, and descriptions that go into digital collections. And as will be described in a later section of this report, Seaver faculty have in fact collaborated with library staff in ways that will facilitate these goals. These partnerships are very valuable in that in the shorter term, eight faculty members or 24% of the faculty members surveyed believe that they will be teaching a course where the Digital Humanities will play a significant role in the lessons or assignments over the next two years.



Scope of the Grant

The main work accomplished during the grant period, in addition to the workshops/lectures mentioned above was that in the Fall of 2015, Jennifer Smith, taught an upper level English course on the Digital Humanities. This course had an enrollment of 19 students, one of which, Sherry Xinning Guo was also hired as the technical support for the course. The course was taught with substantial support from Melissa Nykanen (Special Collections), Kevin Miller (Digital Library), and Jason Eggleston (IT).

[6] http://www.hybridpedagogy.com/journal/introducing-digital-humanities-work-undergraduates-overview/

The Student Learning Outcomes for this course included the ability to

- Recount the basic development of the field of Digital Humanities;
- Analyze and sort text using a variety of modes (visual, frequency, proximity, etc.);
- Convert text from analog to digital form;
- Extract digital text for analysis;
- Handle archival materials with care; and
- Collaborate with peers in the creation of a website.

This library partnership was especially timely given Pepperdine's interest in promoting Special Collections. While Pepperdine's collection of original primary source documents has been used in an increasing number of classes since 2009, the Introduction to Digital Humanities course allowed students to delve into these sources in more meaningful ways. Students gained an appreciation for the tangible materials while also developing technological skills for analyzing and presenting these documents while working with primary source materials authored by George Pepperdine, including a series of travel letters, a travel diary, and speeches. Students engaged in end-to-end education: an archives to audience philosophy that advocates direct engagement with primary sources on the front end of the learning process and professionally developed work on the back end.

By the end of the class, students showed growth in three discernible areas: primary source editing, the analytical applications for software, and an awareness of the ethical implications behind digital surrogates, metadata, and open source materials. Students developed a keen awareness of the mediation involved in the editing of primary sources texts. After having to transcribe a challenging set of handwritten diary entries, for example, one student, argued that

> There is a lot of responsibility in transcribing text to the digital form especially when it comes to collaborating with different applications and people...There are responsibilities that rest heavily on a transcriber's shoulders, like encoding the text and making note of ambiguity and disagreement in translations so that future readers will also see the difficulties of the text. This is very important because while an accidental variation may not change the understanding of the text, completely rephrasing words and sentences may alter how the reader interprets the text. (Student A)

Associated activities that required students to engage directly with primary sources revealed how far the gap is between students' day-to-day work and primary sources and indeed, why the digital might be the excuse for greater engagement with the analog. For example, most students in the class struggled to read cursive with any level of fluency. Many foreign students had never been taught English cursive at all, while most American students had not been required to use cursive since elementary school.

Most students also immediately recognized the analytical potential for combining software using textual analysis software:

> i was able to see patterns and similarities between texts i would have never been able to previously see without its use. Further, these tools create a must faster medium for analyzing texts that by just doing it the old fashioned way by hand, which is nearly impossible with long texts. By using the wordsmith software i was able to easily see

> patterns that were previously hidden to by naked eye, but illuminated using technology. (sic)

Given the daily interaction that students have with software and at least a surface level recognition of how big data has changed their ordinary existence through predictive algorithms, this area was the least difficult to teach.

Arguably the most important learning that students accomplished in the class, however, was persuading students to consider the ways in which ethics plays a role in basic Humanities functions like editing, access, and collaboration and how such digital surrogates may inadvertently lead to bias. One student concluded that

> It's important that we don't overanalyze text, and not let our biases affect what we put into the databases that will continue to grow in this field. This is the ethics portion of the field, as we are trusted to perform our work with the utmost trust of our peers, as they rely on our accuracy of transcription when they do their research from an online database, rather than firsthand with the document. (sic)

Given the fact that none of the students had any training in the importance of meta structures for Humanities scholarship before entering the class, such an increased awareness is impressive.

Indeed, the students' final projects, curated websites completed in collaboration with a team of students and focused on the writings of George Pepperdine were very impressive. See Appendix B for the full assignment sheet associated with this work.

Reading George: http://digitalhumanities.wix.com/readinggeorge
At a Glance: The Passport of George Pepperdine: http://sjiang6.wix.com/curatedwebsite
George Pepperdine: Moving and Movement: http://rjgaumer.wix.com/pepperdineg2
George Pepperdine: A Worldly Perspective http://ejboettn.wix.com/eng380final

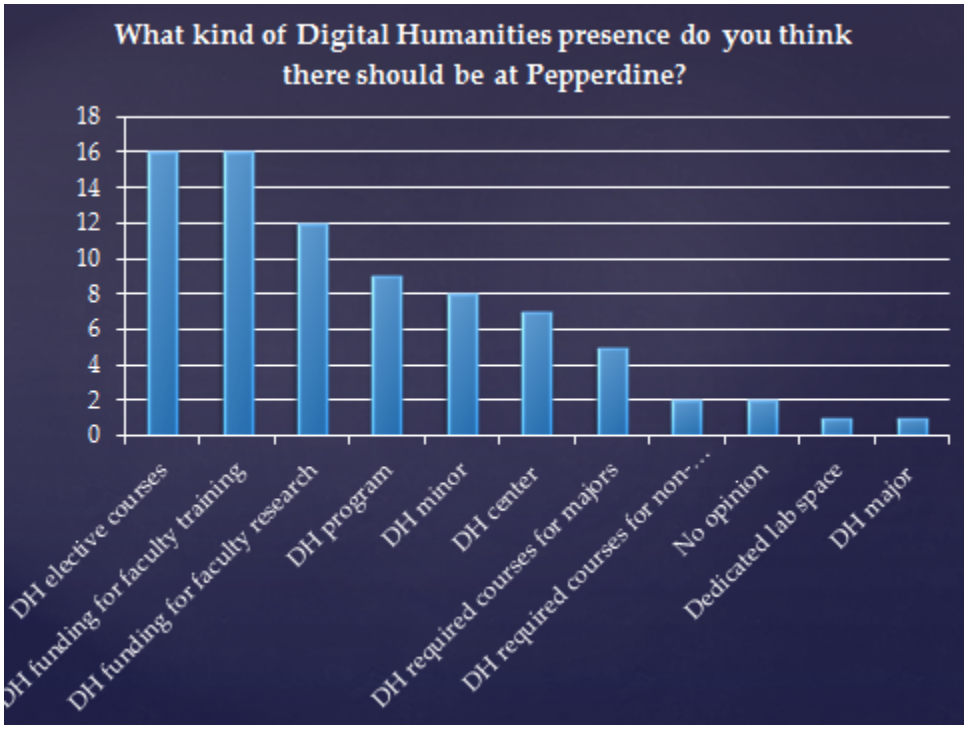
The quality of these final projects is testimony enough to the value of what Digital Humanities work can produce. They are very strong examples of analytic and synthetic Humanities work. We would, however, hesitate, to offer such a course in the same General Education format because while the students exhibited unusually strong analytic and synthetic skills, their interpretive skills remained lackluster. Skepticism about the ways in which language or artifacts in the cultural environment could signify beyond their immediate objective remained prevalent until the end of class. Such a course within a broader Humanities, curriculum, however, would be extremely valuable.

Developments

One of the challenges that we identified in the original grant was that the pace of interest in Digital Humanities by institutions has not yet been matched by the pace of individual departments interested in the Digital Humanities. That is, the rise of the Digital Humanities on campuses has thus far been dominated by the creation of centers or labs that provide for training, stipends, or research support rather than course development. According to the 2012–13 Humanities Departmental Survey produced by the Academy of Arts and Sciences, "Among humanities departments, 24% had a center or lab dedicated to digital humanities research on campus, [but only] 15% of departments offered at least one

seminar or course that focused on digital methods for research or teaching during the academic year."[7] This extracurricular approach to the Digital Humanities has its problems because it means that faculty research has the potential to grow farther from what is taught in the classroom rather than contributing to classroom discourse.

Since the end of the grant period, interest in the Digital Humanities has continued to grow and in particular, it has grown in a way that will directly address that curricular gap. Interest has manifested in a cooperative effort among four different divisions and the library to systematically provide instruction in the Digital Humanities. A systematic curricular presence for the Digital Humanities in liberal arts colleges is currently non-existent, which means that Pepperdine's growth in this area would be an example of innovative and forward-thinking curricular development. This instruction is manifest in three different ways: 1) a Digital Humanities Minor, 2) an English major Digital Humanities course requirement, and 3) Digital Humanities courses offered in a variety of disciplines. This approach is driven directly by faculty responses to the survey given at the beginning of the grant period about what kind of Digital Humanities presence should exist at Pepperdine, in which faculty equally supported the presence of Digital Humanities courses for students as well as funding for additional faculty training and research.



Since the end of the grant period, the English Program wrote into their 5-year report a recommendation for a Digital Humanities requirement for all majors and has submitted a petition to the Seaver Academic Council to formalize that desire. The most significant advance in Digital Humanities, however, is that faculty in the Humanities and Teacher Education Division (HIST and ENG), Natural Science Division (COSC), Fine Arts (ARTH), and Religion and Philosophy (REL) have collaborated to submit a new Digital

[7] http://www.humanitiesindicators.org/binaries/pdf/HDS2_final.pdf

Humanities minor to the Seaver Academic Council for inclusion in the Fall 2017 catalog. As recommended by the grant survey, the majority of courses offered as part of the minor will be available on an elective basis with only two courses, one from English (ENG 225) and one from Computer Science (CS 101 or CS 105), which are required courses. The Natural Science Division unanimously agreed to support the proposal. The Humanities and Teacher Education Division overwhelmingly supported the proposal. (There was one vote against it.) These are the two divisions that have courses that are required elements of the minor. Faculty in Fine Arts and Religion/Philosophy were also consulted and both divisions agreed that in terms of staffing, the best approach would be to approve DH eligible courses on a case-by-case basis.

While there are no plans for a major, faculty anticipated questions by developing a set of Program Learning Outcomes, to serve as a set of guidelines for faculty when deciding whether or not their class should count towards the minor. Given the apparent issues in lack of understanding documented earlier, this set of guidelines is of vital importance.

(a) Program Learning Outcomes[8]
A student who graduates with a minor in Digital Humanities should be able to:

1. bring together the traditional tools of humanistic thinking (interpretation and critique, historical perspective, comparative cultural and social analysis, contextualization, archival research) with the tools of computational thinking (information design, statistical analysis, geographic information systems, database creation, and computer graphics) to formulate, analyze, and interpret a humanities-based research problem;
2. understand and produce humanities-based data from multi-modal and multimedia sources through systematic data processing and data-mining;
3. evaluate and design digital projects and tools critically for communication, project development, and long-term preservation of digital data in ways that demonstrate an understanding of the appropriate uses and limitations of tools and projects on both practical and ethical levels, including sensitivity to issues of sustainability, intellectual property, open access/proprietary knowledge, and private and public dissemination;
4. work collaboratively and think across disciplines, media, and methodologies on multi-authored research projects, project proposals, reports, and presentations aimed at both academic and nonacademic communities.

Thus far, a total of 21 students surveyed are “definitely” interested in taking on a minor in Digital Humanities and an additional 47 students are “probably” interested in taking on a minor in Digital Humanities.[9]

[8] These are modified outcomes from Burdick, Anne et al., *A Short Guide to Digital Humanities*, MIT Press, 2012. https://mitpress.mit.edu/sites/default/files/titles/content/9780262018470_Open_Access_Edition.pdf.

[9] Additional information about the minor is available by contacting Jennifer Smith, jennifer.smith@pepperdine.edu.

Reflections and Recommendations

Even if this minor is approved, there are still a number of issues that must be addressed in the future.

Rank, Tenure, Promotion

One of the biggest hurdles to the long-term success of Digital Humanities research at Pepperdine is the current lack of documentation on campus to assist in the evaluation of digital scholarship for the purposes of rank, tenure and promotion. Several faculty members surveyed explicitly said that Digital Humanities projects should be evaluated according to the same factors as any other scholarship: "Contribution and impact should be the key factors — not medium. External review of some sort, such as peer review, should be considered where available." Yet, so as not to completely yield internal RTP decisions to outside bodies, it is also important that faculty members on campus are informed of the scholarship that typically goes into digital projects and which organizations can be depended on for reliable peer review of digital projects. In particular, the RTP Committee should be fully informed of the professional guidelines and standards published by leading professional organizations, like the Modern Language Association,[10] the American Historical Association,[11] and the College Art Association and the Society of Architectural Historians.[12] They should also be informed about which organizations provide reliable peer review itself, such as the Medieval Electronic Scholarly Alliance (MESA),[13] the Networked Infrastructure for Nineteenth-Century Electronic Scholarship (NINES),[14] and 18thConnect,[15] a scholarly organization devoted to 18th century scholarship in English.

In order to address this particular issue, we recommend the development of an ad hoc committee on digital issues which could develop a similar set of guidelines for internal use. This committee could also draft a statement on other related issues such as open access scholarship, discussed below.

Intellectual Property Rights and Open Access

The more extensively Pepperdine University faculty continue to research, publish, and seek to serve the larger public, the more issues of open access will arise. Open access scholarship has a direct impact on

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[10] Committee on Information Technology. "Guidelines for Evaluating Work in Digital Humanities and Digital Media," Modern Language Association, February 2012. https://www.mla.org/About-Us/Governance/Committees/Committee-Listings/Professional-Issues/Committee-on-Information-Technology/Guidelines-for-Evaluating-Work-in-Digital-Humanities-and-Digital-Media

[11] Ad Hoc Committee on the Evaluation of Digital Scholarship by Historians, "Guidelines for the Professional Evaluation of Digital Scholarship by Historians," American Historical Association, June 2015. https://www.historians.org/teaching-and-learning/digital-history-resources/evaluation-of-digital-scholarship-in-history/guidelines-for-the-professional-evaluation-of-digital-scholarship-by-historians

[12] Task Force to Develop Guidelines for Evaluating Digital Art and Architectural History for Promotion and Tenure, "Guidelines for the Evaluation of Digital Scholarship in Art and Architectural History," College Art Association and the Society of Architectural Historians, January 2016. http://www.collegeart.org/pdf/evaluating-digital-scholarship-in-art-and-architectural-history.pdf

[13] http://www.mesa-medieval.org/

[14] http://www.nines.org/

[15] http://www.18thconnect.org/

the university's ability to reach and serve the needs not just of Pepperdine students but also the world at large.[16]

Neither Pepperdine University or Seaver College, however, currently have an official position on open access. This neutrality, furthermore, is unusual for an institution of Pepperdine's size. Many institutions, including UCLA, have taken a strong stand on support for open access--all of which can be accessed through the Registry of Open Access Repository Mandates and Policies (ROARMAP).[17] Many universities channel funds for this kind of research sponsorship through their university libraries,[18] but each institution sets its own policies. Other institutions, however, have objected into what has turned in practice into a Pay-to-Publish model for publication.[19]

This neutrality also poses a number of different issues ranging from impact factors to service. Scholarly output is increasingly validated based on external citation metrics. Many journals give authors the option to pay an open access fee instead of having their journal articles remain behind a paywall. This status is valuable in that it improves the rate of further citation and supports access to scholarship by all members of the public as opposed to just those who are affiliated with institutions wealthy enough to purchase subscriptions to journals and databases.

More importantly, however, open access has ethical implications that Seaver should not only be aware of but also actively seek to support since they are consonant with the mission of the college and university. Because the vast majority of DH projects are open-access in the form of publicly available websites, DH projects also have an important characteristic that differentiates them from other scholarly work. They are concerned deeply with communicating the content and value of scholarly research to the wider public. In addition, this open access model furthers the fundamental belief that all people should have access to knowledge. Knowledge is not just for those who have the money to pay for expensive memberships to proprietary databases and sources of information but rather, "the digital…is a social change… Or the digital facilitates political change…Or, again, the digital marks a cultural change...the digital is an economic change".[20] **We believe that these efforts to serve the disadvantaged are fundamental to a life of Christian purpose and service because knowledge is the foundation for free will, a will that allows each of us to choose Christ just as he has chosen us.**

Seaver's current neutrality may mean that the institution is inadvertently disincentivizing faculty from supporting open access to their research because there are no internal funding mechanisms or protocol

[16] There is an InfoGuide on open access created by our Scholarly Resources librarian, Jeremy Whitt: http://infoguides.pepperdine.edu/openaccess.
[17] http://roarmap.eprints.org/
[18] For example, see the Springer's statement on open access: http://www.springer.com/gp/open-access/open-access-funding/open-access-funding/2088
[19] For example, see *Medium Aevum's* policy statement on open access: http://mediumaevum.modhist.ox.ac.uk/sites/default/files/policy_statement_on_open_access.pdf.
[20] Alan Liu, "Theses on the Epistemology of the Digital: Advice For the Cambridge Centre for Digital Knowledge," 14 August 2014, http://liu.english.ucsb.edu/theses-on-the-epistemology-of-the-digital-page/

to support this access. As mentioned above, we recommend that this issue of open access be addressed through an ad hoc committee on digital issues which could develop a policy statement for internal use.

Facilities

While Seaver College is currently in possession of the minimum infrastructure needed for Digital Humanities teaching and scholarship, these resources will become taxed if the minor were to grow at a rapid space. This issue is primarily rooted in the fact that the Humanities and Teacher Education Division does not have a dedicated computer lab. (There is a small computer lab used for Writing Composition classes, but this space is fully occupied.) In the past, Digital Humanities sessions have used borrowed space from the library with students also downloading software on their personal machines to supplement instruction. Given the very public and loud space available in the library, the fact that there were not enough computers for all of the students, and that the computers were not networked, this is not an ideal long-term solution. Some faculty may, for example, want to purchase proprietary software for use in the Digital Humanities class, but installing such software on personal student computers is not a fiscally practical measure. IT estimates that a lab of 21 networked computers would be feasible for about $26,250. The college, however, would also have to agree to designate the space for such a lab. We recommend that such a lab be considered as part of any future major equipment purchases or as a particular project that Development may ask to be supported.

Faculty Research

Faculty research in the Digital Humanities is growing, some of it as a direct result of the grant funding and some in parallel to it. As a result of this workshop and the software purchased by the grant monies, Constance Fulmer (English/Dean's Office) began to use WordSmith Tools in her own research. (See Appendix C for the handout developed to facilitate the workshop.) She has also hired Erin Ting as a research assistant; Erin is a student who had taken the Introduction to Digital Humanities course with Jennifer Smith in Fall 2015. On July 15, 2016, Dr. Fulmer presented a paper at the Athenaeum Club in Pall Mall London as part of a conference on "Reflections on the Theory and Practice of digitizing Nineteenth Century Newspapers and Magazines." Her paper was entitled "Edith Simcox and the Academy: A Digital Project." Maire Mullins (English) completed a digital edition of the selected letters of Hannah Whitman Hyde with a variety of student research assistants.[21] And Jacqueline Dillion (English) became a co-editor for a new variorium edition of Thomas Hardy's The Mayor of Casterbridge for Cambridge University Press for publication in 2018. She is working with a student research assistant and utilizing the program Juxta to compare different versions of the text.

Looking forward, 48% of the faculty surveyed indicated that they believed there should be funding for Digital Humanities training and another 36% indicated that they believed there should be funding for Digital Humanities research. This means that at least a dozen faculty members are interested in engaging in the Digital Humanities as teachers and at least eight are interested in engaging in the Digital Humanities as researchers (or both). Addressing the demand for Digital Humanities training is more straightforward than addressing the funding for Digital Humanities research. A public awareness

[21] Mullins, Maire." The Selected Letters of Hannah Whitman Hyde." *Scholarly Editing: The Annual of the Association of Documentary Editing*. 37 (2016). http://scholarlyediting.org/2016/editions/mullinswhitmanheyde.html

campaign and marketing is primarily what is needed to address the desire for training. While there are currently mechanisms on campus that would theoretically support training, for example, by applying for Division funds to travel for a DH training workshop at the Digital Humanities Summer Institute at the University of Victoria or applying for a Dean's Research Grant to attend the Digital Humanities Oxford Summer School, faculty may not realize that these are available options. Few faculty may also be engaging in the very active Digital Humanities communities at USC or UCLA. Our own library also has a growing wealth of resources on the Digital Humanities. See Appendix D for a selected list of materials currently available.

Addressing funding for Digital Humanities research is a little more complicated because funding in the Digital Humanities for research may not look like other forms of funding. Digital Humanities research funding is not necessarily about travel to archives (although it does not preclude such work); DH research funding is arguably more about funding sustainable server space and managing a variety of personnel who can work in the collaborative ways discussed above. As mentioned earlier, IT support is very strong in the area of Digital Pedagogy, especially with the support of the TechLearn team. A similar, though perhaps not quite as extensive, support system would be an ideal parallel for research interests. Sustainable digital projects typically have university sponsorship and technical experts who can go beyond support and towards partnership in DH research. Currently, there is no one on staff whose responsibilities explicitly fall within this domain, although the expertise is available. Jason Eggleston, for example, has both the technical expertise and the training in the Humanities that would be necessary for this kind of partnership.

The necessity for an increased role for IT is demonstrable by prior experience: in the classroom environment discussed earlier which mimicked a research project on the writings of George Pepperdine, students learned how to code primary source documents in TEI, a subset of XML tags. But there was nothing available that could render that code in a format for online presentation. The websites linked above include the primary source text in a downloadable format as well as in a fixed format, but the presentation did not actually take advantage of the students' coding work. To reiterate an earlier point about what it means to do Digital Humanities scholarship--it means more than simply access. It must also enable analysis and manipulation. As is, faculty will necessarily have to go to other institutions and groups to develop digital projects. While on occasion this may be a desirable approach, it certainly would not be in all instances.

Conclusion

As we hope is evident in this report, the long term goal to establish a Digital Humanities community on campus that was invested in engaging in and supporting research and teaching in this area is well underway. While there are certainly areas for continued growth, we have confidence that with the continued support of the university community at large these areas will see the attention that they deserve.

Appendix

Appendix A. Digital Humanities Faculty and Staff Survey

The purpose of the survey is to gather information on the current status of Digital Humanities teaching and research at Pepperdine University.
* Required

Informed Consent for Participation in Research Activities*

Please check EVERY BOX to indicate consent. Failure to check any box means that your responses will not be counted. Thank you!

- 1. I have been asked to participate in a research study conducted by J. A. T. Smith, PhD and Melissa Nykanen, MLS. The purpose of this research is to examine faculty members' experiences with Digital Humanities (DH) research and teaching.
- 2. I understand that I will be participating in an exercise that will include a brief survey on my experiences with DH and how this field may affect my teaching, research, and service. I understand that if I agree to participate in this study, I may be asked to provide additional information about my work in the DH to the researchers in the future.
- 3. I understand that the possible benefits to society from this research are a greater understanding of the various ways that DH may augment my work as a teacher and scholar. A personal benefit is that I may increase my awareness of opportunities for additional training and funding in DH as well as be connected to a larger DH community on Pepperdine's campus.
- 4. I understand that there are no foreseeable risks or discomforts associated with my participation in this research. Completing the exercise, however, may be associated with professional or self-reflection that may raise personal questions about the direction of my career and the purpose of my teaching, research, and service. If I would like to discuss these questions with someone, I can contact either Jennifer Smith at 310-506-6265 or Melissa Nykanen at 310-506-4434.
- 5. I understand that my participation is voluntary and that I may refuse to participate and/or withdraw my consent and discontinue participation in the project or activity at any time without penalty or loss of benefits to which I am otherwise entitled.
- 6. I understand that I may contact the following impartial third party, not associated with the research study, to address complaints about the study: Dr. Susan Helm, Institutional Review Board Chair, Natural Science Division, Pepperdine University, Malibu, CA 90263.
- 7. I understand that I may choose not to participate in this research.
- 8. I understand that the investigators and the University will take all reasonable measures to protect the confidentiality of my records and my identity will not be revealed in any publication that may result from this project. The confidentiality of my records will be maintained in accordance with applicable state and federal laws.

- 9. I understand that the investigators are willing to answer any inquiries I may have concerning the research herein described. Following is the contact information for each investigator: Jennifer Smith, Pepperdine University, Humanities and Teacher Education, Malibu, CA 90263 (phone: 310-506-6265) and Melissa Nykanen, Pepperdine University, Special Collections, Malibu, CA 90263 (phone: 310-506-4434).
- 10. I will be informed of any significant new findings developed during the course of my participation in this research, which may have a bearing on my willingness to continue in the study.
- 11. I have read and understand the material contained in this informed consent form. I hereby consent to participate in the research described above.

Survey

1. Division or Department

2. Field of Study
e.g. Rhetoric, History, Art, etc.

3. How long have you worked for Pepperdine University?
   - Less than 1 year
   - 1-5 years
   - 6-15 years
   - 15-25 years
   - Greater than 25 years
4. How long have you worked in Higher Education?
   - Less than 1 year
   - 1-5 years
   - 6-15 years
   - 15-25 years
   - More than 25 years
5. What is your "definition" of Digital Humanities?

6. How important do you think Digital Humanities are to the future of scholarship and teaching?
   - Extremely Important
   - Moderately Important
   - Neutral
   - Moderately Unimportant
   - Extremely Unimportant
7. Are you now teaching or have you ever been engaged in any Digital Humanities Research projects?
   - Yes

- No
- Not sure

8. If yes, please briefly (1-2 sentences) describe the project below and provide a link if available.

9. Do you have any DH publications (articles or books)? If so, please give a full citation below.

10. How likely are you to engage in a Digital Humanities Research Project over the next 2 years?
    - Very likely
    - Likely
    - Neutral
    - Unlikely
    - Very Unlikely
11. Have you ever attended any of the following DH conferences or workshops?
    - Digital Humanities Summer Institute
    - Humanities Intensive Learning and Teaching
    - Annual Conference of the Alliance of Digital Humanities Organizations
    - European Summer School in Digital Humanities
    - Digital Pedagogy Institute
    - Electronic Literature Organization Conference
    - UCLA Digital Humanities Working Group
    - USC Digital Humanities Events
    - ThatCamp
    - Other:

12. Are you now teaching or have you ever taught a course that included one or more lessons that you would construe as Digital Humanities oriented?
    - Yes
    - No
    - Not sure
13. If yes, please briefly (1-2 sentences) describe the lesson(s).

14. What are barriers to YOUR OWN involvement in the Digital Humanities?
    - No barriers
    - Lack of funding to attend workshops
    - Steep learning curve
    - No collaborators on campus
    - Insufficient IT support
    - Don't know enough about field
    - Insufficient time
    - Skepticism about value
    - Other priorities
    - Other:

15. Have you ever required your students to complete a Digital Humanities assignment?
    - Yes
    - No
    - Not sure

16. If yes, please give a brief description of the assignment (1-2 sentences).

17. How likely are you to teach a course where Digital Humanities plays a significant role in the lessons or assignments over the next 2 years?
    - Very likely
    - Likely
    - Neutral
    - Unlikely
    - Very Unlikely

18. Are there Digital Humanities resources (books, software, etc.) that you think the college should invest in?

19. What kind of Digital Humanities presence do you think there should be at Pepperdine?
    - DH required courses for majors
    - DH required courses for non-majors
    - DH elective courses
    - DH minor
    - DH major
    - DH Center
    - DH Program (a comprehensive approach including sponsored lectures, workshops, and courses)
    - DH funding for faculty training
    - DH funding for faculty research
    - Other:

20. What kind of Digital Humanities workshops would you like to see offered at Pepperdine?
    - GIS
    - Text Mining or Text Analysis
    - Text Encoding (TEI)
    - Text Visualisation
    - Network Analysis
    - Digital Publication/Digital Editions
    - Funding Options
    - Other:

21. Are there any Digital Humanities scholars that you would like us to bring to campus?

22. What kind of barriers do you see to a greater Digital Humanities presence AT PEPPERDINE in the future?

- Lack of funding
- Insufficient faculty interest
- Insufficient faculty training
- Lack of institutional support
- Lack of centralized space
- Lack of IT infrastructure
- Insufficient student interest
- Insufficient staff interest
- Lack of RTP protocol or precedence
- Other:

23. If you have served on a hiring committee in the past five years, have Digital Humanities skills factored into the selection of candidates?

- Strong Impact
- Moderate Impact
- Neutral
- Weak Impact
- No Impact
- I have not served on a hiring committee.

24. How do you think Digital Humanities Projects should be evaluated for the purpose of RTP?

25. Additional comments or questions

Appendix B. Curated Website (G. Pepperdine). Assignment Sheet. Sp15

Student Learning Objectives

This assignment is a curated website focused on the writings of George Pepperdine. It will challenge you to combine all of the skills you have acquired throughout the past semester into one digital environment. It will also encourage you to engage in some of the fundamental practices of the Digital Humanities: collaboration, project-based learning, and public scholarship. Finally, it will challenge you to think about how to communicate their own skill sets to a larger public through presentation and framing.

Program Learning Objectives

SLO #1 Students will demonstrate critical thinking skills through rigorous analysis of literary texts in diverse historical and cultural contexts

SLO #2 Students will demonstrate a basic understanding of the concept and practice of literary research

SLO #3 Students will demonstrate effective writing and/or oral presentation through literary analysis

SLO #4 Students will demonstrate the way meaning is expressed through the formal elements of language and genre

Requirements and Grading

In your George Pepperdine Working Groups, please create a curated website for the documentary sources that you edited from the George Pepperdine Digital Collection. You may use the digital platform of your choice (GoogleSites, Wix, WordPress, etc.). The website must include the following:

1. A title and tagline which emphasizes the narrative of the website. For example, "George Pepperdine, Man of Letters" or "George Pepperdine, World Traveler" or "The Education of George Pepperdine." (Failure to include such a title and tagline results in a penalty only.)

2. A short personal biography and photo for each contributor. Personal bios typically include where you are from, what your course of study is, and what your plans are after graduation. You may also include any significant employment or extracurricular activities. Please write in professional and grammatical prose. (5 pts.)

3. Abstracts of approximately 150-200 words for each of the 7-9 documents we examined (journal, speeches, travel letters). Good abstracts will summarize the contents of the document while

emphasizing its relative importance to the rest of the collection. Please ensure that the Abstracts are clearly labeled or visually distinct from the body of your paper. (5 pts. each, with 2 per group member=10 pts./person)

4. Corrected transcriptions of all of the 7-9 documents you edited for this class (journal, speeches, travel letters) formatted in a consistent manner internally as well as across all five assignments. (Failure to include the corrected transcriptions results in a penalty only.)

5. Contributions by each member of the group in one of the following areas. For groups with only four members, students may choose from any of the four categories as long as Webmaster is represented. (20 pts.)

a. Webmaster—responsible for uploading and formatting all of the contributions and making sure authorship on each of the areas of the website is clearly labeled (for the purpose of grading).

b. Biographer/Bibliographer—responsible for writing 1-2 paragraph (i.e. 750-100 words) biography of George Pepperdine and providing citations and/or links to a minimum of 10-15 print and electronic sources. I suggest that you use Zotero to facilitate this work.

c. Paleographer—responsible for writing 1-2 paragraphs (i.e. 750-100 words) analyzing Pepperdine's handwriting and editorial style. The discussion must include select examples of letter forms presented as cropped images. No, you do not need an example of every letter that Pepperdine uses—only the ones that matter to your discussion.

d. Text analyzer—responsible for running text analysis on George Pepperdine's writings through WordSmith and coming up with some basic data that describe Pepperdine's main interests along with 1-2 paragraphs of commentary (i.e. 750-100 words).

e. Digital Tools Integrator—responsible for applying a digital tool within the context of the website that will facilitate the study of Pepperdine's documents. This augmented tool may take many forms. A few suggestions-- a Google Map which shows Pepperdine's travel route while on pilgrimage to Jerusalem, an interactive timeline of his travels, or a collection of images from the time and places that Pepperdine traveled. This option must also be accompanied by 1-2 paragraphs of commentary (i.e. 750-100 words). Any student taking on this role must get his or her project approved.

6. Website organization that shows a strong sense of narrative, hierarchy, and interpretation. Group organization which demonstrates collaboration and communication across the project working period. That is, make sure the intent of the website is clearly articulated in every area and make sure that work is evenly and fairly distributed. (15 pts.)

Appendix C. WordSmith Pre-Writing Worksheet

J.A.T. Smith
Jennifer.smith@pepperdine.edu

Getting Started with Text Analysis

The following worksheet has been prepared as a step-by-step series of questions that a researcher might want to ask about general patterns in a text. It is not, however a user-guide for WordSmith. You can find one of those here:
http://www.lexically.net/wordsmith/step_by_step_English6/index.html?introduction.htm
Instead, it focuses on developing a data-driven research model for texts. We'll be using a prepared textual corpus (Shakespeare) which you can find here:
http://lexically.net/wordsmith/support/shakespeare.html

1) The **WordList** tool lets you see a list of all the words or word-clusters in a text, set out in alphabetical or frequency order.
2) The concordancer, **Concord**, gives you a chance to see any word or phrase in context -- so that you can see the whole sentence that it appears in. Functionally speaking, this means that you can find all of the quotations that have the instance of the word that you're interested in seeing.
3) With **KeyWords** you can find the key words in a text but this tool is more complex because it requires that you compare multiple texts against each other.

Text Analysis Worksheet

Preparation

1) What text do you want to explore?

_____

2) What concept do you want to explore?

_____

3) What term(s) do you want to explore to test the concept above?

_____

WordList Metadata

After creating a WordList for your file(s), answer the following questions using the Statistics tab.

4) How many words or **tokens** are in your text? _____
5) How many unique spellings or **types** are in your text as a whole? _____
6) What is the average (**mean**) word length? _____

Choose two characters that you would like compare.

7) Character #1: How many words or **tokens** does the character speak? _____
8) Character #2: How many words or **tokens** does the character speak? _____
9) Character #1: How many unique spellings or **types** are in your text as a whole? _____

10) Character #2: How many unique spellings or **types** are in your text as a whole? _____

11) Character #1: What is the average (**mean**) word length? _____

12) Character #2: What is the average (**mean**) word length? _____

Now let's explore the terms that you chose above by looking at the Frequency Tab.

13) Ignoring function words (the, to, it, he, she, for, etc.), what are the 5 most frequent words are in the text?

i. _____
ii. _____
iii. _____
iv. _____
v. _____

14) Ignoring function words (the, to, it, he, she, for, etc.), what are the 5 most frequent words spoken by character #1 _____?

i. _____
ii. _____
iii. _____
iv. _____
v. _____

15) Ignoring function words (the, to, it, he, she, for, etc.), what are the 5 most frequent words spoken by character #2 _____?

i. _____
ii. _____
iii. _____
iv. _____
v. _____

16) What is the absolute number, i.e. frequency?

	Text:	Character #1:	Character #2:
Term #1			
Term #2			
Term #3			

17) What is the absolute rank for each of the terms?

	Text:	Character #1:	Character #2:
Term #1			
Term #2			
Term #3			

If all of your terms are semantically heavy (i.e. nouns, verbs, adjectives), it may help to refine our data by creating a second WordList that excludes function words (i.e. prepositions, pronouns, conjunctions). You'll do this by adding a StopList to a new WordList.
With the StopList in place, let's see how the new data compares.

18) How many words or **tokens** are in your text? _____
19) How many unique spellings or **types** are in your text as a whole? _____
20) What is the average (**mean**) word length? _____

With the StopList in place, compare the same two characters again.

21) Character #1: How many words or **tokens** does the character speak? _____
22) Character #2: How many words or **tokens** does the character speak? _____
23) Character #1: How many unique spellings or **types** are in your text as a whole? _____
24) Character #2: How many unique spellings or **types** are in your text as a whole? _____
25) Character #1: What is the average (**mean**) word length? _____
26) Character #2: What is the average (**mean**) word length? _____

27) What is the rank for each of the terms you are exploring?

	Text:	Character #1:	Character #2:
Term #1			
Term #2			
Term #3			

Now let's do some math so we can compare our results.

28) Character #1 _____
Frequency of term #1 ÷ total number of words w/SL= _____
Frequency of term #2 ÷ total number of words w/SL = _____
Frequency of term #3 ÷ total number of words w/SL = _____

29) Character #2 _____
Frequency of term #1 ÷ total number of words w/SL = _____
Frequency of term #2 ÷ total number of words w/SL = _____
Frequency of term #3 ÷ total number of words w/SL = _____

For each of the results drawn above, try to come up with one conclusion that is based on the data and analysis.

30) Can you make any conclusions about the relative prominence of your search terms in the speech of your two focus-characters versus the terms in the text as a whole?

_____
_____
_____
_____
_____

31) Can you make any conclusions about the relative prominence of your search terms as you compare your two characters?

_____
_____
_____
_____
_____

32) Can you make any conclusions about the relative sophistication of the vocabulary of each of your speakers

a. Based on word length?

_____
_____
_____
_____
_____

b. Based on total speech?

_____
_____
_____
_____
_____

c. Based on diversity of vocabulary?

_____
_____
_____
_____
_____

Advanced Analysis (Before and After). Sometimes, a major event occurs in your text and you want to compare the pattern of language use both before and after this event. Repeat all of the prior steps but first separate your text files so that they reflect the chronological division that you have made.

Concordance Metadata

WordList was good for looking at individual words but let's see now what the associations are between multiple words as well as how they behave within context. Unless doing an analysis of function words, don't forget to use the WordList with the StopList in place!

First, let's take a look at collocates (co-location) or words that are found in close proximity to your search terms.

33) Text: Using the collocates tab, are there significant word associations to the left or right of search
a. term #1? _____
b. term #2? _____
c. term #3? _____

34) Character #1: Using the collocates tab, are there significant word associations to the left or right of search
a. term #1? _____
b. term #2? _____
c. term #3? _____

35) Character #2: Using the collocates tab, are there significant word associations to the left or right of search
a. term #1? _____
b. term #2? _____

c. term #3? _____

Next, let's look at the Plot tool which shows the distribution of use of a term across the entire text.

36) Text: Using the Plot tab, do your search terms cluster in one area of the text?
a. term #1? _____
b. term #2? _____
c. term #3? _____

37) Character #1: Using the Plot tab, do your search terms cluster in one area of the text?
a. term #1? _____
b. term #2? _____
c. term #3? _____

38) Character #2: Using the Plot tab, do your search terms cluster in one area of the text?
a. term #1? _____
b. term #2? _____
c. term #3? _____

Finally, let's look at the patterns produced for words in close proximity to your search term. Are there particular patterns of speech that appear repeatedly?

39) Text: Using the Patterns tab, do your search terms produce particular patterns in the text?
a. term #1? _____
b. term #2? _____
c. term #3? _____

40) Character #1: Using the Patterns tab, do your search terms produce particular patterns in the text?
a. term #1? _____
b. term #2? _____
c. term #3? _____

41) Character #2: Using the Patterns tab, do your search terms produce particular patterns in the text?
a. term #1? _____
b. term #2? _____
c. term #3? _____

For each of the results drawn above, try to come up with one conclusion that is based on the data and analysis.

42) Does the distribution of your terms suggest that your analysis might benefit from being reprocessed by contrasting one portion of the text against another portion?

_____
_____
_____
_____
_____

43) Are there significant differences in the patterns of word association that you see in one character versus another? One character versus the text as a whole?

_____
_____
_____
_____
_____

44) Are there terms that you did not systematically evaluate that you think you should now based on the patterns you found in the text?

_____
_____
_____
_____
_____

Now let's gather some textual evidence so that we can put our interpretations back in context.

45) If this is practical, create a list of quotations in a separate document for each of your terms. Otherwise, create a selected list of quotations for each of your terms. After compiling your list, you'll be able to connect your textual evidence with the discussion that you've come up with above in a more traditional literary interpretation.

Appendix D. Digital Humanities Resources in the Pepperdine University Libraries

Books

Apollon, Daniel, Claire Belisle, and Philippe Régnier. *Digital Critical Editions*. Urbana: University of Illinois Press, 2014. Print and internet resource.

Berry, David M. *Understanding Digital Humanities.* Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2012. Print.

Blanke, Tobias. *Digital Asset Ecosystems: Rethinking Crowds and Cloud.* Kidlington: Chandos Publishing, 2014. Internet resource.

Bode, Katherine, and Paul L. Arthur. *Advancing Digital Humanities: Research, Methods, Theories.* Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2014. Print.

Bodenhamer, David J, John Corrigan, and Trevor M. Harris. *The Spatial Humanities: GIS and the Future of Humanities Scholarship.* Bloomington: Indiana University Press, 2010. Internet resource.

Burdick, Anne, Johanna Drucker, and Peter Lunenfeld. *Digital_humanities*. Cambridge, MA: MIT Press, 2012. Print and internet resource.

Carson, Christie, and Peter Kirwan. *Shakespeare and the Digital World: Redefining Scholarship and Practice.* Cambridge, New York: Cambridge University Press, 2014. Print.

Carter, Bryan. *Digital Humanities: Current Perspective, Practices, and Research.* Bingley, U.K.: Emerald, 2013. Internet resource.

Chiarcos, Christian, Sebastian Nordhoff, and Sebastian Hellmann. *Linked Data in Linguistics: Representing and Connecting Language Data and Language Metadata*. Heidelberg, New York: Springer, 2012. Internet resource.

Clivaz, Claire, Andrew F. Gregory, David Hamidovič, and Sara Schulthess. *Digital Humanities in Biblical, Early Jewish and Early Christian Studies.* Leiden: Brill, 2013. Internet resource.

Cohen, Daniel J, and Tom Scheinfeldt. *Hacking the Academy: New Approaches to Scholarship and Teaching from Digital Humanities.* Ann Arbor: University of Michigan Press, 2013. Internet resource.

Dávidházi, Péter. *New Publication Cultures in the Humanities: Exploring the Paradigm Shift.* Amsterdam: Amsterdam University Press, 2014. Internet resource.

Deegan, Marilyn, Willard McCarty, and Harold Short. *Collaborative Research in the Digital Humanities: A Volume in Honour of Harold Short, on the Occasion of His 65th Birthday and His Retirement, September 2010*. Farnham, England: Ashgate, 2012. Internet resource.

Earhart, Amy E. *Traces of the Old, Uses of the New: The Emergence of Digital Literary Studies.* Ann Arbor: University of Michigan Press, 2015. Internet resource.

Emerson, Lori. *Reading Writing Interfaces: From the Digital to the Bookbound*. Minneapolis: University of Minnesota Press, 2014. Internet resource.

Giaretta, David. *Advanced Digital Preservation.* Berlin: Springer, 2011. Internet resource.

Gold, Matthew K. *Debates in the Digital Humanities*. Minneapolis: University Of Minnesota Press, 2012. Print and internet resource.

Harpold, Terry. *Ex-foliations: Reading Machines and the Upgrade Path.* Minneapolis: University of Minnesota Press, 2009. Internet resource.

Hayles, Katherine. *How We Think: Digital Media and Contemporary Technogenesis.* Chicago: The University of Chicago Press, 2012. Internet resource.

Hirsch, Brett D. *Digital Humanities Pedagogy: Practices, Principles and Politics*. Cambridge: Open Book Publishers, 2012. Internet resource.

Jockers, Matthew L. *Macroanalysis: Digital Methods and Literary History*. Urbana: University of Illinois Press, 2013. Print and internet resource.

Kinder, Marsha, and Tara McPherson. *Transmedia Frictions: The Digital, the Arts, and the Humanities.* Berkeley: University of California Press, 2014. Internet resource.

Klein, Julie T. *Interdisciplining Digital Humanities: Boundary Work in an Emerging Field.* Ann Arbor: University of Michigan Press, 2015. Print and internet resource.

Langdon, Melissa. *The Work of Art in a Digital Age: Art, Technology and Globalisation.* New York: Springer, 2014. Internet resource.

Liu, Alan. *The Laws of Cool: Knowledge Work and the Culture of Information.* Chicago: University of Chicago Press, 2004. Internet resource.

McCarty, Willard. *Humanities Computing.* Basingstoke, England: Palgrave Macmillan, 2005. Print.

McCullough, Malcolm. *Abstracting Craft: The Practiced Digital Hand.* Cambridge, Mass: MIT Press, 1996. Print.

McGann, Jerome J. A New Republic of Letters: Memory and Scholarship in the Age of Digital Reproduction. Cambridge: Harvard University Press, 2014. Print and internet resource.

McGrath, Laura. *Collaborative Approaches to the Digital in English Studies.* Logan, Utah: Utah State University Press, 2011. Internet resource.

Nichols, Stephen G. *From Parchment to Cyberspace: Medieval Literature in the Digital Age.* New York: Peter Lang, 2016. Internet resource.

O'Brien, Heather, and Paul Cairns. *Why Engagement Matters: Cross-disciplinary Perspectives and Innovations on User Engagement with Digital Media.* Cham: Springer, 2016. Internet resource.

O'Gorman, Marcel. *E-crit: Digital Media, Critical Theory and the Humanities*. Toronto: University of Toronto Press, 2006. Print.

Panofsky, Ruth, and Kathleen Kellett. *Cultural Mapping and the Digital Sphere: Place and Space.* Edmonton: The University of Alberta Press, 2015. Internet resource.

Pierazzo, Elena. *Digital Scholarly Editing: Theories, Models and Methods*. Burlington, VT: Ashgate, 2015. Print.

Presner, Todd S, David Shepard, and Yoh Kawano. *Hypercities: Thick Mapping in the Digital Humanities.* Cambridge: Harvard University Press, 2014. Print.

Ramsay, Stephen. *Reading Machines: Toward an Algorithmic Criticism.* Urbana: University of Illinois Press, 2011. Internet resource.

Ridge, Mia. *Crowdsourcing Our Cultural Heritage*. Farnham, England: Ashgate, 2014. Print and internet resource.

Ridolfo, Jim. *Digital Samaritans: Rhetorical Delivery and Engagement in the Digital Humanities*. Ann Arbor: University of Michigan Press, 2015. Internet resource.

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