Born-Pedagogical DH

Learning While Teaching

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Teaching has proved a powerful way to learn digital humanities (DH). Indeed, we have found the classroom an ideal space for students as well as for teachers to experiment with the digital humanities and expand their skills. While arguably *all* DH is pedagogical to the degree that we engage with it to learn, we use the term *born-pedagogical DH* (bpDH) to describe a DH that arises from the space of curiosity, learning, and experimentation that is the classroom. Like the now-common concept of "born-digital" archives, dissertations, or publications that have no preceding analog form, bpDH emphasizes forms of digital humanities that are explicitly developed for teaching and learning. We have found—in our own classrooms and in working with other teachers—that bpDH is purposefully and powerfully small. This means that bpDH practiced by those who themselves are new to the field will necessarily, and we argue productively, remain close to the core of humanities methods and questions that the teacher already engages. Rather than teaching DH 101 or a wide swath of DH all at once, building an assignment into a syllabus requires balancing the "how-to" with the "why," to make clear what humanistic perspectives are being enabled through the application of new skills and articulating that balance (often in the form of learning goals or course themes). As a result, the selection of a DH method or platform depends more on the humanistic questions that the teachers want the class to engage with. The focus then becomes exploring a question methodologically with the students rather than having the students contribute a small part of a larger project, or positioning DH as a necessary skill on the job market. bpDH, then, is less a space of digital disruption to the manner of teaching than a methodological expansion that remains focused on humanities issues.

It emphasizes what Roopika Risam and Susan Edwards have called "micro digital humanities," small of scale yet large in impact.[1] These impacts are multiple and build from the sense of openness and experimentation that bpDH inculcates. It fosters an openness to new approaches and ideas and opens the learning community to a variety of actors across campuses. As a non–resource intensive version of DH, it

makes DH open to individuals and institutions without extensive training opportunities or technological resources.[2] It opens up the space to provide a critical perspective on both the questions and the technologies and methods used to address them.

At some point in time, every DH scholar began by knowing nothing about DH. We therefore remain both teachers and students of DH in a variety of ways. Neither of the coauthors has a degree in DH, and very few in roles like ours do. We first encountered DH through necessity, learning the pieces we needed through conference workshops, postdoctoral fellowship projects, and DH institutes like Humanities Intensive Learning and Teaching (HILT). As a graduate student in comparative literature, McGinn attended a workshop and took extra coursework in TEI for the creation of a digital variorum of a modernist text.[3] The initial targeted goal of marking up a single short story with TEI turned into the pursuit of a certificate in new media, further directed studies in DH with librarian John Russell, and a postdoc in DH through the Council on Library and Information Resources (CLIR). Coats had a more indirect route to DH, in part a product of her graduate training in English coming several years before McGinn's. While the authors' experiences testify to the timeline of uneven institutional DH development, they have found bpDH to be a common ground across institutions and professional positions. Coats's interest started with a graduate fellowship encoding archival finding aids and grew through doctoral research that took as its subject and object enlarged-through-digitization periodical databases, which led to a CLIR postdoctoral fellowship that entwined work in special collections and digital humanities. When Coats took a tenure-track job in an English department as an early Americanist, her interest in making things with digital humanities technologies remained. She used her research and especially her teaching to continue to develop as a digital humanist. She has learned a great deal about DH, especially about computational methods and network analysis, through small-scale teaching assignments in undergraduate and graduate classes. This experience of learning DH in small pieces through classrooms and workshops has led both authors to embrace this same approach in their various roles: Coats as a tenured professor of English and past director of Louisiana State University's Digital Scholarship Lab, and McGinn as the head of DH at the University of Georgia and now in her role as DH librarian at Johns Hopkins University. McGinn and Coats have taught semester-long classes as well as one-off classes, workshops, and workshop series. Both authors support faculty in adopting DH for their own research and teaching by taking small steps, rather than learning the whole of DH all at once.

For both authors, then, the classroom space, learning alongside our students, is where we have honed our DH skills. Our classroom experiments in matching small DH projects to our course material drove our belief in the efficacy of bpDH. We shared our faith in this method in our recently concluded National Endowment for the Humanities (NEH) Institute for Advanced Topics in the Digital Humanities, "Textual Data and Digital Texts in the Undergraduate Classroom." Our institute

focused on pedagogy with the goal of lowering barriers to entry to DH. From our vantage points of a library-based DH unit and of a traditional academic department, we emphasize that the "classroom" is not just the province of departmental faculty but is a space that brings together students and teachers from a variety of positions in the university, sometimes in a semester-long course and sometimes for a shorter duration. We embrace bpDH because the classroom is the precise place where a humility about what we, as instructors, do not already know, and a curiosity for what we wish to know, should be natural. That is, DH is, by nature, pedagogical. bpDH emphasizes that to be a DH scholar is also to be a DH student. Many of us as practitioners have learned by doing in a situational context where the classroom is all around us. This chapter, as well as others in this volume, explores the potential for DH methodology specifically in the university classroom.[4] bpDH emphasizes perpetual learning and the gradual acquisition of skills.

DH is very diverse in its methods, and the tools used, or created, are often for a specific use case or objective, whether that is creating a digital edition with TEI, mapping with ArcGIS or Carto, or creating networks with Gephi, to name just a few of the 238 tools that were found listed in a recent study on abstracts from Alliance of Digital Humanities Organizations conferences.[5] bpDH takes advantage of the classroom as a space for exploration, experimentation, and most of all learning. In the classroom, everyone—teachers and students alike—advances their understandings of a topic collaboratively and incrementally. We took this same perspective into our NEH institute, which was founded on bringing DH into the classroom. For the institute's twenty-two participants, as for many teachers we work with, knowing where to begin with DH remains difficult. We were aware that the institute might be the first exposure to any of these 238 DH-specific tools. For ourselves, we knew the subjects and tools the institute covered but were not equally expert (or proficient) in them all. Thus the institute itself became a chance for us to hone our own skills even as we, with a host of guest speakers and teachers, led the institute. While we focused on introducing specific methods and tools, then, the institute as a whole focused on how incorporating DH into an undergraduate class (whether a workshop led by a librarian or guest teacher, or a unit collaboratively built by a DH specialist and the instructor, or one led by the instructor alone) afforded opportunities for both teachers and students to develop new approaches to humanistic inquiry.

Each participant developed a teaching artifact that would apply one method to a course or workshop.[6] Together, these artifacts model how bpDH builds inroads to DH for those with no prior knowledge or elaborate infrastructures, and in so doing centers on the humanistic questions that teachers in the humanities want their students to engage. For a DH learner, a focused approach that becomes part of the research or pedagogical process can be a way to step into DH and reduce the scale of work from a large project whose threads and individual processes are obscured by the complexity of the final output.

Start Small

One advantage of bpDH is that it requires the prioritization of learning goals rather than any particular DH method or tool. As Diane Jakacki and Katherine Faull remind us, "One of the fundamental differences between digital humanities pedagogy and a more general integration of technology into the classroom lies in the intentionality of course learning goals; in other words, how we lead students to new forms of understanding through the methods of the digital humanities."[7] The classroom becomes an autonomous space where learning can be defined according to the course goals and the needs of the instructor and students. Learning DH need not be a years-long investment, but instead a small and targeted exercise. A smaller approach allows the instructor and the students to focus on a single method and apply it to a specific use case, to a specific object of study.[8] The most successful DH explorations are tied to the topics already set to be addressed in the class. Designing a DH unit can start with the learning objectives, and these objectives then become a guide to the method.[9] Claire Battershill and Shawna Ross point out that "explicit learning objectives are . . . crucial to buy-in for the DH components in your course. . . . Integrating digital skills into a list of course objectives will show them how they are related to their development of disciplinary knowledge."[10] When Coats, with her Louisiana State University colleague Aaron Sheehan Dean, ran a "Digital Pedagogy" workshop series and fellowship program for faculty and graduate students, one of the first workshops had participants articulate their teaching goals and learning objectives.[11] Only then did the workshops expand to a wide-ranging exploration of DH methods and tools. Closely tying the use of DH to the subject matter at hand lessens some of the anxiety—for both teacher and student—about learning a new program or platform. The connection between the subject of the course and the technology becomes clear, and the learning objectives guide the sense of play or experimentation into a cogent and meaningful endeavor.

Play

bpDH welcomes this notion of experimentation. While experimentation can hold the connotation of a scientific exploration, Lisa Spiro notes that "for the digital humanities community, experimentation suggests not only a method of testing ideas and creating knowledge but also its engagement in transforming traditional approaches to teaching and research. 'Experiment' belongs in a constellation of terms such as curiosity, play, exploration, and do-it-yourself."[12] With this understanding of *experiment* in mind, the classroom becomes a place of experimentation and play, or what Trevor Owens calls the "generative world of discovery."[13] This idea of play allows for a degree of risk and trial and error in the classroom.[14] Exposing this vulnerability to other learners is a powerful expression of collaboration and a willingness to learn on all sides. If a tool or method fails to work in a class—as it

inevitably will—the lesson need not be a failure but an opportunity for instructor and student to work through a problem on equal footing. This vulnerability, especially for instructors, who are used to being content experts, can be frightening, but it can also be liberating for the instructors, who can deepen their skill sets and hear from other learners.[15] Such vulnerability requires trust as well. When Coats introduced a social network visualization exercise in an English literature graduate seminar, doubt dogged her as she developed the assignment. Coats wanted students to study academic journals to ask questions about who, over time, was being published and cited, and what works were being analyzed. A social network provided a way for Coats and the students to address this question across several decades and several journals. Yet creating the assignment was difficult: Coats was—and still is—a novice in the area. Creating an assignment outside her own expertise was difficult not only because she had to spend more time figuring out what to ask of students (and what was possible to ask of them) but also because embracing experimentation unsettled much of her training as a teacher, which presented a model in which students were supposed to experiment but teachers were supposed to lead. Coats did develop an assignment, which students executed admirably. While one lesson of this bpDH moment could be a recitation of the research results (only *one* critic was cited in common in three different decades of a particular academic journal), another involves the trust involved in implementing such an assignment. Throughout the course, the students and Coats developed trust in each other's varied skills, interest in each other's work, and ties as a small community of learners. When Coats asked students to input data in a spreadsheet, their commitment to the class outweighed their hesitation. In other words, the common interest in the learning goals and research questions of the class authorized experimentations in how they were explored.

McGinn takes this notion of experimentation as a guiding principle of her Summer Scholars program for undergrads. She developed the program at the small liberal arts institution Lafayette College and adapted it for use at the large, research-intensive University of Georgia.[16] The program selects a cohort of undergraduate applicants who have an idea they would like to explore. The goal for the six-week session is to develop a prototype or an exploration of their idea. Rather than instructing on a broad array of DH tools, McGinn asks the students to find and review three tools and then choose the one that matches their skill level and can best analyze their inquiry. Participants have ranged from students in English and history to sociology, Latin American studies, and computer science. DH tools the students have used include browser-based tools like Voyant Tools and Timeline JS, data analysis using R, and web mapping. This level of variety from the students relies on the instructor's own DH knowledge, their willingness to learn a new method or tool along with students, and an openness to collaboration to draw on the expertise of others.

In this way bpDH emphasizes the process of learning a new method and exposes the difficulty in doing so. When the instructor is part of this process simultaneously,

it shifts students from passive consumers of knowledge to "students as producers."[17] It can take courage on the part of the instructor, but this courage can pay big dividends for the students as well as the instructor. When all learners create knowledge, they become more deeply invested in their outputs, and when the group collaborates on a shared goal, they can all bring their diverse strengths to the table. As Derek Bruff experienced when working with open-ended problems or questions in an undergraduate classroom, these prompts gave all students "the chance to confront failure, to learn from it, to keep working [toward] a solution. . . . It's important to provide students these opportunities to prepare them for hard problems they will face in the future."[18] When everyone is encouraged to play, to try, to bring their own knowledge to bear on a project, the whole group benefits from a variety of solutions and approaches and their work challenges the notion that there is a single answer to a complex problem.

The diffusion of expertise that characterizes bpDH does require grappling with how such experimentation fits into the frameworks of assessment, metrics, grade point averages, and teaching evaluations that figure prominently in higher education. Such experimentation in the classroom may seem best suited for the tenured, those who work in relative safety and have a fair amount of pedagogical independence. On the other end of the spectrum, experimentation can also pose risks to students. As Aaron Mauro reminds us, the students in our classes "have been raised on standardized testing and have habituated respect for strict numerical measures of teaching and learning; they may also be dubious about a new discipline's embrace of experimentation."[19] It can be difficult for an instructor to be vulnerable, but the same is true for the students. Material consequences for a low grade can include loss of scholarships, work, or internship opportunities on campus and long-term impact on GPAs. The authors have both used process-oriented grading for many bpDH assignments. Even more effective than grading rubrics, however, McGinn and Coats have found that emphasizing how the DH-inflected assignments or unit or project connects to the learning goals at hand enables engagement by teachers and students. The more that the teachers *and* the students can see the clear relationship between these objectives and DH—while having a clear understanding about how they will be evaluated for this kind of work, with the assurance that having difficulties does not necessarily mean a failing grade—the more at ease students and teachers will be.

Stay Small

bpDH makes it possible to push these boundaries in ways that allow learners (both teachers and students) to connect what they are learning to what they already know. Within teaching, the term *scaffolding* is often used to describe this method of incremental learning. More broadly, it accords with what N. Katherine Hayles, following Belarusian psychologist L. S. Vygotsky, identifies as "proximal development."

Hayles argues that "for learning to occur, the distance between instruction and available skills must be capable of being bridged, either through direct instruction or . . . working with 'more capable' peers."[20] When learning a new skill, it can be effective to start with things that seem closest to methods with which one is already comfortable. In bpDH such proximal development might mean using a digital platform for sharing and writing about texts. Student-created digital exhibits or narratives offer a bridge between the traditional humanities essay and other ways to select, analyze, and share results about evidence. Or it might mean using a web-based tool for an exploration of data rather than attempting to learn all of Python or starting with a huge project.

For instance, an assignment or activity that uses Voyant Tools becomes a way of connecting methods of close reading and attention to one or a few texts—methods familiar to those in the humanities—to those of distant reading. Proximal development allows learners to bridge the two. For instructors used to working with text, Voyant is proximal to what they are already familiar with in terms of researching and using text. Unlike long-term or more robust DH work that might use Python to analyze text, Voyant serves as a bridge into DH that illustrates the possibilities of quantitative research in the humanities while remaining centered on the learning goals and humanities questions that anchor a class. By opening up new ways to approach text, and to think anew about the construction of evidence and argument, bpDH asks learners to consider what questions, both old and new, might be posed in the classroom. Moreover, it can create a space for learners to consider data-driven approaches to texts that are marginal in many humanities fields, and, in turn, consider how such approaches can help humanities students craft humanistic arguments.[21]

From a low barrier for entry with a tool like Voyant, learners can begin to discern which methods will work best for their approach and which they would like to learn more deeply. At the University of Georgia, McGinn designed the DH Undergraduate Certificate based on proximal development.[22] The certificate provides a method for professors to incorporate DH into their existing courses and for students to use digital tools to ask new kinds of questions. In the first two years of the program, fifty DH-inflected courses across seven disciplines have incorporated a DH component into an existing syllabus in line with their established learning goals. These classroom experiments have led to instructors using digital tools in their research and an enthusiasm among the students for finding novel ways to explore humanities objects. bpDH is an encounter with a new way of knowing and doing for both teacher and student, a form of encounter that requires openness to new approaches and ideas and that makes everyone a learner.

If bpDH starts small, it can also stay small. With bpDH as a starting point, newcomers can learn a method that can be applied specifically to the objectives of a particular class or endeavor and experiment with new methods and tools in a low-stakes way. That is, by fostering experimentation and relying on proximal

development, bpDH does not end with a commitment to DH as such. Rather than imagining a large, multiyear project that requires many hands and additional funding, newcomers can focus on what they can do today that is already within their skill set, then what they can do next week, and next semester. These small steps using ready-made tools can multiply quickly toward more complex methods. This approach may indeed lead to a large project, but it does not have to be the end result, or the only result. For Coats and McGinn, their own careers have been a series of bpDH experiences that incrementally developed into more knowledge of and interest in digital humanities. For others, the experiment may end with the close of the class or workshop. To remain pedagogical is not a failure but a success of experimentation with digital humanities methods to scale to different ends. Indeed, instilling collaboration and experimentation into humanities methodology is an attainable and valuable goal. It is this sense of generosity and spirit of learning that bpDH creates. We are all perpetual learners in this paradigm and are poised for the technologies and methods that come next.

Notes

1. Risam and Edwards, "Micro DH."
2. Earhart and Taylor, "Pedagogies of Race."
3. McGinn et al., "Comparing Marks."
4. See chapters 2 and 9 in this volume.
5. Barbot et al., "Which DH Tools?"
6. See Coats and McGinn, *Digital Texts.*
7. Jakacki and Faull, "Doing DH," 359.
8. Kristin Allukian's assignment on "encoding feminist poetry" is an example of small bpDH. While students do learn some coding, the learning goal and the assignment focus the students' attention on "how code can prompt behaviors that encourage certain reading practices" (Allukian, "Encoding Feminist Poetry," 121). Similarly, Hillary Richardson's assignment develops a carefully scaffolded experience for students that walks them through using a digital tool for transcription that can be trained on particular handwriting. As the assignment objective describes, the goal is for students "to think about the important aspects of an historical document, like a letter, and not just what's said within the message, but who is sending it, when, and where" (Richardson, "Preparing 'Letters as Data,'" 156).
9. American Association of Colleges and Universities, "Essential Learning Outcomes."
10. Battershill and Ross, *Using Digital Humanities,* 71. Melinda Cro's assignment builds on this notion of experiment by having students use Juxta Commons to compare the *Déclaration des droits de l'homme et du citoyen* (1789) and the *Déclaration des droits de la femme et de la citoyenne* (1791); see Cro, "Comparative Textual Analysis." The point is less to learn the tool but, rather, to become comfortable using a variety of technologies to explore texts. See Coats and McGinn, *Digital Texts,* for additional examples of DH pedagogical assignments.

11. Faculty at Louisiana State University include instructors, librarians, and tenure-track and tenured professors.

12. Spiro, " 'This Is Why,' " 30.

13. Owens, "Discovery and Justification."

14. For more on the idea of experimentation and giving students the agency to explore, see Harris, "Play, Collaborate" and Davis, Gold, and Harris, "Curating *Digital Pedagogy*."

15. The learners are also free to experiment and know that the object is the process rather than the output. They can feel confident in stretching their own limits without fear of grading repercussions.

16. The latest version of the Summer Scholars program at Lafayette can be found at https://sites.lafayette.edu/dhss/, while the model used at the University of Georgia is at https://dhsummerscholars.digilabuga.org.

17. Bruff, "Students as Producers," 1.

18. Bruff, 7. Crystal Felima, one of the NEH institute participants, models this approach in her use of digital project charters and digital brainstorming tools, which emphasize that the students collaboratively define the focus and scope of their projects, in so doing building student "investment" in the related processes of "collaboration, researching, identifying, digitizing, curating and creating" (Felima, "Project Charter," 126).

19. Mauro, "Digital Liberal Arts," 376.

20. Hayles, *How We Think,* 60.

21. Goldstone, "Teaching Quantitative Methods," 210.

22. See Digital Humanities Initiative of the University of Georgia, "DH Certificate."

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