SECOND EDITION

CLAUDIA BATTERSHILL
& SHAWNA ROSS

USING DIGITAL HUMANITIES IN THE CLASSROOM

A PRACTICAL INTRODUCTION FO

TEACHERS, LECTURERS, AND STUD

Using Digital Humanities in the Classroom

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A Practical Introduction for Teachers, Lecturers, and Students

Second Edition

Claire Battershill and Shawna Ross

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PREFACE TO THE SECOND EDITION

To say a lot has happened in the world and in Digital Humanities (DH) since the first edition of this book was published five years ago is a bit of an understatement. Indeed, the critical discourse into which we enter with this updated edition has been almost unrecognizably transformed when it comes to the use of digital methods in humanities classrooms. Since 2016, digital activities and assignments have become far more common, and curricular offerings in DH (majors, minors, certificates, tracks, and interdisciplinary programs) are far more readily available. And since then, almost all university instructors, even those who had never previously even opened up their institution's online learning management systems, were thrown suddenly into fully remote teaching in the spring of 2020. We respond to these dramatic shifts here in part by addressing the impact of the Covid-19 pandemic and the sudden ubiquity of Zoom teaching, online discussion boards, and virtual classrooms in our new chapter on "Teaching in a Digital Classroom."

We first decided to create this text back in 2015 in response to an increasing demand for an entryway into pedagogical digital tools and methods—an introduction that was truly accessible and inclusive. We took then (and continue to take) a very broad approach to the notion of "digital humanities" and intend to mean by it, in a general way, the application of humanistic methods of thinking to digital tools and environments. In this book, DH is not intended to represent a monolithic critical edifice but rather a very broad term to cover any and all intersections of humanistic work and

digital tools and infrastructures. You don't need a fancy lab, a ton of funding, a background in coding, or even a lot of extra time to engage meaningfully and thoughtfully with technology in the humanities classroom. In fact, we all use basic technologies all the time in teaching, and this book is designed in part to encourage thoughtful approaches to straightforward, everyday tools.

Often, a half-decade ago, new initiates into digital methods would find themselves spending inordinate amounts of time parsing jargon borrowed from computer science (and sometimes, upsettingly, shamed for lacking technical skills). They might try out many new digital assignments or apps or platforms, only to discover that the technological solution in question wasn't right for their students or their subject. We aimed to create a manual that would help the DH-skeptical and the DH-nervous (and even the generally technophobic) get started. It would help them find out if there was anything potentially generative in this field that might align with their own teaching philosophies and values. We also hoped that this book would help graduate students learning to teach, liaison librarians new to the field, and instructors and faculty members in many types of institutions. We hoped it would become part of an academic community that shares nuts-and-bolts practical knowledge of classroom techniques of the kind that should be openly available rather than guarded. We have been delighted to see at conferences and in reading groups and training sessions that small, intrainstitutional communities often develop around learning about digital approaches to teaching in the humanities and around shared pedagogical practices.

Since we wrote the first edition, some other excellent beginner-friendly resources have been published. These include, particularly, *Digital Pedagogy in the Humanities: Concepts, Models, and Experiments*, edited by Rebecca Frost Davis et al., and the upcoming *Debates in Digital Humanities Pedagogy*, edited by Brian Croxall and Diane Jakacki, both of which would form excellent companions to the present volume. There has also been a turn in the overall dynamic of the field of DH as a scholarly discipline. Initial optimism about the promise of the discipline for the future has given way to skeptical critiques and takedowns on subjects ranging from diversity and inclusion, to the lack of reproducibility of some quantitative

results, to the funding infrastructures that support large-scale projects. Indeed it has been accused of many evils, including a potential contribution to the decline of the status of the humanities in universities (evidenced by declining enrollments in some humanities subjects and the weak job market for humanities PhDs in many countries). We have followed these ongoing debates with interest and engagement and we celebrate the rise of "the critical digital humanities": bodies of scholarship that are rectifying these problems in DH by approaching the field from the lenses of critical race theory, intersectional feminism, and disability studies.

We also continue to feel that whatever the trends of the scholarly discourses of DH, the classroom is an increasingly digital space, and it needs the humanities to help it navigate the changes in educational infrastructure we're all encountering as we teach. This should include critical approaches to ubiquitous corporately owned tech tools, analyses of power relations in tech infrastructure, and critiques of neoliberalism and techno-utopian thinking. Our own teaching styles and philosophies and approaches to DH in general are of course distinct from one another, as we discuss in the new Coda to this edition, but we share a general attitude of cheerfulness and unbridled enthusiasm about teaching, about our students, and about pedagogical scholarship. Our upbeat attitudes don't equate to privileging digital methods over pen-and-paper ones (C is a book historian, after all!), or indeed to privileging DH scholarship over other approaches (S is a literary critic, after all!). Rather, our optimism lies more in our belief that talking more about what we do in the classroom together as colleagues, taking risks, and trying new experiments can help students learn.

Throughout this second edition we have updated our references, further reading lists, and examples to include the newest software, platforms, apps, and digital tools that are presently available. We've also sharpened our critical edge when it comes to topics like critical digitization initiatives and open-access resources in order to reflect the increasing sophistication of the scholarly discourse in those areas. The chapters on accessibility and on graduate student mentorship have been expanded, while the chapters on activities and assignments now feature sections that present more advanced

options. Our readers of the first edition were fans of the quick reference tables we included, so we've added more of those throughout to allow you to turn to this volume as you're making decisions about an assignment or activity and consult our suggestions at a glance. The Web Companion has been completely redesigned. While the original one (www.teachdh.com/2016), which includes bibliographic essays and sample teaching materials, is still available, the new one (www.teachdh.com) is a more centralized and easily searchable free reference tool. Taking the form of an FAQ, the new Web Companion aims to answer a number of common questions about how to start teaching with digital tools. As with the first edition, we've tried a ton of platforms and software packages so you don't have to!

Further Reading

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Weingart, Scott B., and N. Eichmann-Kalwara. “What’s Under the Big Tent? A Study of ADHO Conference Abstracts.” *Digital Studies/le Champ Numérique*, vol. 7, no. 1, 2017, p. 6. doi: http://doi.org/10.16995/dscn.284.

Introduction

When we first consider using new technologies in the classroom, often the hardest part is getting started. This is not because of a lack of available tools and methods but rather a surfeit: when there are so many possibilities for activities, platforms, and resources, it can be tremendously difficult to separate the useful from the useless and the time-saving from the time-consuming. Meanwhile, digital humanities (DH)—an interdisciplinary field that uses digital technologies and quantitative methodologies to further humanistic research—has opened new possibilities for teaching but does not always share the nuts-and-bolts, on-the-ground, day-by-day advice you may need. Where can you find a good mapping tool? How do you organize your digital files? What's the best way of encouraging student discussion outside the classroom? Why might you choose a particular software application over another? These kinds of questions can take a lot of time and energy to answer and, therefore, can present a barrier to trying new instructional methods. *Using Digital Humanities in the Classroom* is meant to help you answer these questions, provide you with a number of shortcuts, and point you to the new resources and frameworks you'll need in order to confidently incorporate more digital approaches, methods, and tools into your classroom.

Because digital technologies are increasingly central to the way we do our work as humanists (taken to an extreme by the unexpected total digital turn of the 2020–1 Covid-19 pandemic), we all have a responsibility to keep pace with the information technologies that are changing the landscapes of higher education. We wish this book to serve as an introductory guide to digital tools you can use in your teaching, so we avoid technical jargon that may be prohibitive to you or your students. Instead we use plain language to

introduce and discuss DH approaches that can enhance what we are already doing as we teach using databases, search engines, and sophisticated library and information systems. Although there are certainly kinds of projects in this book that seem most immediately accessible to those with some formal training or prior experience in computer programming, *Using Digital Humanities in the Classroom* shows that there are many more that require nothing more (beyond the basic, everyday computer competencies that we more or less all possess) than simply an openness to new strategies.

We see DH not as an exclusive or unified discipline but rather as a constellation of practical ideas, technologies, and tools that can be incorporated in a modular fashion into your own classroom practice. And all of them can relate to your existing interests, passions, and goals as a teacher. Your expertise in, for example, Shakespeare studies or Socratic thought is more important in your classroom than your competent use of bibliographic management software or your ability to create fancy network visualizations, but there's no reason why the thoughtful and judicious application of that software can't facilitate and enhance your teaching of early modern drama or Greek philosophy. In other words, whether or not you intend to become an expert in DH, you should be able to benefit from some of DH's offerings, finding not only exciting possibilities for new classroom activities and assignments but also inspiration to reconfigure your vision of your own discipline and its relationship to new media and technologies.

Who Is This Book for?

We intend for this book to help anyone who would like to increase, rethink, or complicate the ways they incorporate technology in the classroom. You might be an experienced teacher who wants to experiment with digital activities and assignments, or you might be a new teacher who is familiar with a variety of platforms and programming languages but is less familiar about managing a classroom, creating a syllabus, grading, and the other

mechanics of teaching. You might be a digital humanist who has tons of experience with digital research but wants some new ideas about applying those skills in the classroom. You might be mentoring new teachers—even teaching a class on pedagogy—and need some help giving your pupils ideas about digital resources, activities, and assignments for their own classes. Or you might be a librarian, a DH center staff member, education technology specialist, or reading group leader who has been tasked with introducing teachers and researchers to DH.

We assume you have turned to this book because you want to improve, or help others improve, their use of technology to teach humanities concepts and methods. Perhaps you currently use PowerPoint for your lectures; work with students virtually through your university's internal grading, chatting, and work-sharing systems; or collect assignments through Turnitin. These familiar technologies allow us to easily incorporate images, share notes, and communicate simply and quickly with our students. Of course, they also cause their share of frustration (this book cannot, alas, entirely prevent such glitches, although it does offer practical tips and tricks for solving common technical problems). And, yet, even those technologies that work flawlessly can become a source of problems as we become habituated to them—to the point of feeling uninspired or using these tools uncritically.

To recapture an inspired and critical use of technology in the classroom, perhaps you would like to know more about technologies, resources, and software that have not yet become quite so familiar or ubiquitous. Perhaps you want to learn about new kinds of assignments and learning outcomes that digital platforms can enable. Perhaps you suspect that there are new online resources and digital projects that your students might find useful in their research essays, but you do not know where to find them. Perhaps you would like to know the latest thinking on the sometimes-thorny issues of copyright, privacy, integrity, and labor that arise in digital contexts. Perhaps your students have expressed interest in using digital tools, or perhaps they have come to expect from your own institutional culture that there will be some sort of technological integration in every classroom. Whatever the case may be, we hope you use this book as a primer designed to enhance your teaching

in the humanities classroom by integrating digital tools and methods that fit with your pedagogical goals. The book is not designed specifically for DH specialists; in fact, it requires no existing knowledge of the field at all but instead offers an introduction to DH through and for the classroom. In other words, this book will not explain how to teach DH but rather how to teach *with* DH.

You do not need any specialized technical skills in order to use this book, and neither do your students. Where some technical training is necessary, we provide brief, practical explanations of how to go about using a tool, or we provide resources that will allow you to undertake further advanced training later if you so wish. For now, all you need is an interest in digital developments in pedagogy and a desire to think about how your teaching might be enlivened with some new tools, tricks, and ideas.

What Are Digital Humanities?

Before we get any further, there are two crucial questions to address: What exactly is the discipline of DH (we commonly use the abbreviation throughout this book), and why does it matter to teachers of humanities courses? Like many newly emerging and rapidly changing fields, DH is full to bursting with definitions. Like many foundational disciplinary queries ("What is media studies?" for instance, or "What is ethics?"), defining DH is at once fundamental and complex. Ideas about the nature of DH range from the broadest and simplest of definitions—humanistic research of any kind that uses digital methods or tools—to more specific disciplinary constructions that see participation in the field as something that requires a standard set of technical skills. Since scholars in the field have grappled with this question at length in other venues, both print and digital, we'd like here to suggest that there are so many ways of defining this field that there is bound to be something of use in it for just about anyone who teaches today in a university classroom.

In a suitably digital answer to the proliferation of definitions for the field, a website by Jason Heppler, whatisdigitalhumanities.com, generates a random new definition every time you refresh the webpage in your browser. One click might get you a broad definition that stipulates any cross-fertilization between technology and the humanities, while another might reference particular technologies (such as data mining or visualization). Another might be pointedly inclusive (by mentioning nonacademic institutions and members of the general public, for example), while another might focus on DH as a field of research. The spirit of that multivocal generator is something we'd like to maintain here in our own thinking about DH. For us, DH simply represents a community of scholars and teachers interested in using or studying technology. We use humanities techniques to study digital cultures, tools, and concepts, and we also use computational methods to explore the traditional objects of humanistic inquiry. This book is not concerned specifically with teaching DH itself as a subject field, though we do provide some resources for that purpose.

Further resources on the definition of DH and the many debates about the boundaries of the field can be found in the bibliography at the end of this introduction. While some of these sources are considered foundational classics in the field, others offer critiques of the field in ways that we have found useful. We have written more about this issue in the preface, but we want to reiterate here that if you'd like to know more about DH as such, we recommend diving into both of these strands of research.

Key Concepts

Each section of this book addresses a separate topic but invokes a few central motifs and recommendations that we return to again and again. For example, we emphasize that you always need to know precisely what you are using DH methods *for*. Rather than engaging with new tools for their own sake, we recommend that you ground all your experiments and exercises in

your course content. This will allow you to design your course carefully, on a case-by-case basis, so that particular exercises are suited to the particular course topic or text. For example, it is for good reason that mapping some region or aspect of London—an activity that was popular in many humanities classrooms when only paper maps and atlases of London were available—continues to flourish as a popular (and useful) DH assignment. You will have more success if you choose activities on a day-by-day basis so they make sense for the particular readings at hand. However, we suggest that you also be willing to return to activities that a particular class has enjoyed and may want to revisit. Likewise, you should be willing to drop plans for a new activity if students are struggling with course content.

The purpose of combining specificity, clarity, and flexibility is to ensure that your digital content always connects to course objectives and can adapt in case of equipment failure or miscommunications. In fact, you may want to begin an exercise by explicitly telling your students how this tool or method relates to the learning objectives you have stated in your syllabus. Although you may rely on implicit learning objectives that guide you through each semester, you should consider devoting quite a bit of your syllabus construction time to drafting course objectives. Connecting digital activities or assignments to these objectives can help to persuade a resistant student (or fellow instructor) and also provide insurance in case an exercise or assignment doesn't quite go to plan. If the students' efforts meet stated course objectives, then the activity is a success regardless of the outcome on the screen. Clearly stating these course objectives, despite the drearily bureaucratic connotations they might have for some, provides you with a powerful safeguard. Some DH skeptics worry that teaching with DH can quickly shade into a dubious use of student labor. This ethical concern matters; it may not, for example, be wise to ask students to perform, on a regular basis, crowdsourced labor for a project you are personally connected to. Yet there *are* some digital scholarly projects that students can usefully contribute to—and learn a lot from—so you can use your course objectives as guidelines to gauge the appropriateness of any assigned tasks.

Beyond placing course objectives at the core of your activities in order to emphasize the humanistic aims behind digital experiments, you can also assign reflection papers. Whether as short as a few sentences scribbled during the last minutes of class or as long as a formal essay that represents a noteworthy chunk of their final grade, these reflection papers should ask the students to connect their digital work explicitly with the other assignments and texts in the course. Even the most eager or digitally savvy student might otherwise complete the task without considering its purposes beyond creating a graphic or producing statistics. And even the best-designed activity will not automatically result in students considering its broader implications for the entire course. Asking students to weigh in on the advantages (and disadvantages) of using DH in the classroom not only allows them a context for articulating their victories—and for venting their frustrations—but also helps you revise the course prompt or assignment sheet for the next time around.

Reflection is particularly crucial with DH approaches because frustration is a common feeling attendant on DH experiments. In DH, certain kinds of failure are not only understandable: they are *expected*. Hypotheses or research questions that generate ambiguous or statistically insignificant results might never be fully proven or disproven. Faulty equipment or messy data can prevent students from finding any results whatsoever, as can inadequate instructions or poorly formed teams. And, as with any class activity, a whole constellation of constraints, from time to space to material resources, could limit your students' success. With enough forethought, with a creative use of available resources, and with tips from this book, you can solve many of these problems. Still, even the most well-prepared activity can fail, and when that happens, you will want to minimize the negative effects on students by giving them credit for their efforts. And, perhaps more importantly, you can productively turn the conversation to diagnosing the sources of that failure, using it to find new ways to solve the problem, whether by identifying a technological solution or by approaching the problem through other humanistic skill sets.

Many activities in DH similarly require adaptability, creativity, and openness. Indeed, a resolutely cheerful and optimistic attitude animates our approach to DH. We value the unforeseen, the process-oriented, the accidental, and the contingent. So long as you continue to be guided by your course objectives, this openness need not be a weakness or a distraction. Indeed, it can foster opportunities for reassessment and revision. Remember that you can rely on your subject knowledge and that your students will learn valuable skills if you are willing to model problem solving and resilience. Sometimes, you will be compelled to make these revisions in the middle of a semester—or in the middle of a class session—but with the tools we give you, you can minimize any potential negative effects for your students.

How to Use This Book

Just as your own DH activities and assignments will be subject to revision, all of the material that follows in this book is similarly customizable. Mixing and matching the assignments and activities suggested here will greatly increase the book's usefulness. At their core, these sample prompts, guides, assignment sheets, and rubrics are simply *techniques*—approaches, not rigid formulas—that work best when tailored to fit a particular course. For example, we arrange our suggestions for activities and assignments by the length of time they require (or, sometimes, by cost), but you can revise these suggested templates to suit any particular technique into virtually any length or type of assignment. Most activities can be configured to be executed remotely or in class, completed by a group or by a single student, or finished over the course of a week, a unit, or a semester.

We have organized the book into short chapters, each one divided into small, clearly identified sections, so that you can easily dip in and out. Chapters have been designed as freestanding units that can be read on their own, in any order. Suggestions for further reading are given separately for each chapter so that you can find further resources quickly and easily. We

have privileged practical advice over theory—not because theoretical approaches to pedagogy are uninteresting (and indeed, you will find relevant theoretical arguments in the further reading sections) but because this book is meant, first and foremost, as a hands-on introductory guide. As you build more confidence with designing assignments and activities, the book will also provide signposts for ways to reinforce and diversify your use of DH in the classroom.

At the core of a DH-inspired class is its digital resources.

Chapter 1, “Finding, Creating, and Using Digital Resources,” shares practical tips for finding the digital texts, files, and other assets necessary for innovative DH pedagogy. We first explain the advantages of using digital resources, then discuss how to find and evaluate them, ensuring that you choose the most robust resources at your disposal. For instructors who cannot locate suitable digital resources, we provide instructions for creating them for your students, as well as advice for creating them alongside your students. The chapter ends with a discussion of citation and copyright issues.

Chapter 2, “Ensuring Accessibility,” applies concepts from Universal Design to recommend ways to make your class work optimally for all of your students. It explains technologies, such as text-to-speech and multimodal recording, that maximize the accessibility of your lectures, then turns to strategies for promoting universal interactivity (which will give your students the tools to participate fully in each course session) and providing multiple means of engagement, representation, and expression. We also consider the theory of multiple intelligences to help you reflect on diverse learning styles. Much of this information is organized into tables to make information tailored to particular issues (e.g., student presentations, late work, assignment design) easy to find. Finally,

Chapter 2 turns to issues of safety, privacy, and economic inequality.

These accessibility issues will affect all of the decisions you make for your course, including your syllabus construction.

Chapter 3, "Designing Your Syllabus," opens by arguing in favor of providing online syllabi and course websites and by suggesting simple but effective means to construct them. We then discuss the prospect of teaching a course specifically on the DH before explaining the ways in which you can incorporate DH in a "light," "medium," or "heavy" dosage. It then provides detailed suggestions for writing the necessary components of a syllabus—such as contact information, course descriptions, learning objectives, and course policies—in ways that account for the DH elements you are using.

Chapter 4, “Designing Classroom Activities,” begins by theorizing in-class activities as exploratory operations that emphasize play, failure, and skill acquisition over mastery or “results.” Next, it discusses the necessity to maintain a balance between flexibility and consistency so that you can respond productively to last-minute problems or ideas while not introducing too much chaos in the classroom or departing too wildly from your carefully laid plans. It then catalogs a dozen sample in-class DH activity options, arranged by the amount of time they require, supplements these baseline activities with a set of advanced activities, and ends with advice for writing effective prompts.

Because the execution of a well-planned activity also requires a good deal of thought,

Chapter 5, “Managing Classroom Activities,” explains how to facilitate these activities. It first advises using free or already existing resources at the core of your activities so that resource difficulties are less likely to disrupt your plans. Still, not all DH activities are free, so we then discuss how to secure facilities, equipment, and other resources to which you might not normally have access, all arranged from least to most costly. To help you react to the many problems that may crop up during activities, we share techniques for troubleshooting and strategies for rescuing a class session—even when your planned activity is irrevocably pushed off course.

In

Chapter 6, “Creating Digital Assignments,” we first share general tips for designing technologically innovative assignments, making sure to foreground principles that derive from the values and practices of the DH community, so that your assignments are clear, useful, and exciting for both you and your students. The bulk of the chapter catalogs a set of assignment ideas, arranging them from the least to the most complex and linking them to sample assignment sheets and rubrics in the Web Companion (as we also do in

Chapter 4). A section on advanced assignments targets teachers and students who are already comfortable with digital tools.

Chapter 6 ends with a detailed discussion of how to write effective assignment sheets and an exhortation to provide examples of previous student work or to complete the assignment yourself.

The peculiar demands of DH-inflected assignments will influence your grading processes as much as they do your construction of assignments, so

Chapter 7, “Evaluating Student Work,” explores the ways in which you will want to clarify and modify your approach to assessment. It begins by discussing the significance of sharing explicit criteria with your students and then walks through the construction of analytic and holistic rubrics. We share some approaches that have developed within the DH community and some ideas for involving your students in the evaluation process, such as ungrading and contract grading. Finally, we discuss alternatives to rubric usage and end with advice for helping your students (and you too!) cope with failure.

Chapter 8, “Teaching Graduate Students,” turns to the particular issues at hand when teaching graduate courses and advising graduate students. It considers the differences between undergraduate and graduate students from the vantage point of the DH, then it elaborates the many ways in which DH can be incorporated into a graduate course. One detailed table specifies appropriate software packages for graduate students. Another offers advice for graduate students and for their mentors, tailored to each stage in a grad student’s progress-to-degree. Next, graduate mentors are encouraged to connect graduate students to external opportunities, such as conferences and fellowships, that center on DH.

Chapter 8 ends with advice for helping graduate students in the job market to leverage their DH experience.

Chapter 9, “Collaborating,” stresses the importance of reaching out to others as you experiment with DH. Sometimes, your pedagogical dreams are too big for a single class or a single semester, so this chapter details the many ways your students can contribute to bigger projects and the many ways you can collaborate with other teachers and researchers.

Chapter 9 covers finding (and giving) help within and beyond your own institution. We begin with a consideration of social media, as it is an extremely user-friendly and quick way to build a community of DHers. An extended meditation on collaboration gives you strategies for making sure that your attempts to receive support are mutually beneficial. To gesture toward the many ways to interact with the global DH community, we survey the academic organizations, conferences, and events that have emerged around DH, including DH's range of institutes, workshops, and seminars.

Chapter 10, “Contributing to Your Research,” lays out options for making your efforts in DH pedagogy work double for you by contributing to your scholarship. We first discuss using DH methods and tools to make your existing disciplinary research more efficient and reliable. Next, the chapter explores options for publishing works about your DH teaching experiences, including detailed information about particular journals to consider submitting your work to, before considering how current scholarship in the DH can transform your research by broadening its content and scope.

Chapter 10 ends by considering possibilities for bringing your students into this research process by using DH methods. It stresses the significance of bringing your students in as collaborators rather than workers and shares ways for acknowledging your students' efforts.

Chapter 11, "Teaching in a Digital Classroom," is new to the second edition. We have added it as a response to the changes in the educational landscape brought about by Covid-19, which caused instructors around the globe to think carefully about how to conduct remote, online, or hybrid forms of teaching. Although we could not provide a full set of instructions for online teaching, we do identify six core goals to follow, enumerate concrete ways that these goals can shape your course design, and suggest software packages to help you implement these new design features. Then, we identify and describe features that all online courses should have, such as a course orientation, flexible office hours, limited or interactive lectures, and a strategic balance of asynchronous and synchronous elements. After considering how you can build community in your online class, we finally turn to discussing the particular challenges of online teaching, including difficulties related to hands-on learning, resource scarcity, and mental health.

Whereas this introduction has acquainted you with the features and information offered by this book, the Coda, "Developing Your Teaching Philosophy," offers suggestions for moving forward, beyond the confines of this book and our suggestions. In this coda, we exhort you to experiment and, by responding to the needs and interests of your particular student body, to forge your own approaches to DH pedagogy. Throughout this collaboratively written volume, when we use the first-person plural, we refer to ourselves, Shawna Ross and Claire Battershill, and when we have distinct opinions or anecdotes about our individual teaching, we distinguish ourselves by our initials: S. and C. While our experiences in our own home disciplines—literature, book history, and cultural studies—have inevitably colored the examples we share here, we bring in examples from across many humanities fields and hope that our literature-centered anecdotes can influence how you use new technologies to teach any of your field's text-based sources.

The Web Companion (www.teachdh.com)

To provide more inspiration beyond the confines of the chapters described above and to situate this book in the digital context from which it arose, we offer a Web Companion (www.teachdh.com). Whereas this book focuses on general strategies, the Web Companion is where you'll find concrete, tangible anecdotes, materials, templates, and reference sources from teachers across all humanities fields.

The original companion, tied to the first edition, included thorough bibliographic essays paired with each book chapter. Each essay shared relevant sources for each chapter and provides short essays on important debates, issues, or concepts that we could not address in the book itself. The original companion also provided customizable, downloadable activity sets and assignment sets for methods that we have particularly highlighted in this book, such as maps, visualization, text capture, and text analysis, along with examples of actual student work to use as samples. These original materials are still available in an archived form at www.teachdh.com/2016.

For the second edition, we have crafted an entirely new Web Companion. It is now an interactive resource designed to offer straightforward answers to common questions. Presented in the style of an FAQ (a series of "frequently asked questions"), it is designed to help you get started quickly so you can integrate the concepts in this book as effortlessly as possible. If you have a question in mind, enter your query in the search bar, and relevant answers will begin to appear as you type. If you do not have a particular need in mind, you can browse the questions and answers by clicking on the topics (such as accessibility or grading) listed under the search bar.

To make the best use of these supplementary materials, whether you are more interested in the original companion or the new one, we suggest that you read this book with a smartphone, laptop, or other internet-enabled device close at hand. This will be particularly useful as you read

Chapters 4,

6, and

11. That way, you can refer to the digital materials as they are referenced in the book. (Alternately, you could, of course, download the materials in advance.)

Conclusion

We encourage you, essentially, to use this book in whatever way you find it most helpful. In *Using Digital Humanities in the Classroom*, we have deliberately designed a primer that supports a variety of approaches and suits a variety of purposes. We recognize that we all teach with our own motivations and with our own styles, and this eclecticism is what makes conversations about the classroom so exciting. Hopefully, what motivates you to teach in the first place, and what drives you to be bold and try new things in the classroom, will also be what leads you to engage with DH in a way that suits your own ideals and your own classroom philosophy.

In this book, we hope to show the many ways in which technology can not only introduce new lines of inquiry but also help answer the cultural, historical, linguistic, literary, philosophical, or anthropological questions that you and your students are already posing in your courses. We hope that some of the assignment suggestions, prompts, and reflections in this volume will provide opportunities to reflect on what matters most to you in your teaching. Trying new methods can also bring us back to our own truest and most important pedagogical priorities and remind us (and our students) of what humanistic inquiry is all about. DH, as a discipline full of experimentation, openness, and newness, can spark new approaches to our most important problems and questions. Using new technology won't change the purpose of your teaching or substitute for your other activities as a teacher. Nor does it stand in for or replace the values you currently hold. It *does*, however, give you new ways to see those goals, facilitate them, and share them with students.

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1

Finding, Creating, and Using Digital Resources

Digital resources can allow you to test the digital humanities (DH) waters in a simple, straightforward way: by including digital artifacts, texts, or exhibitions in your course materials. In this chapter, therefore, we recommend reliable, stable sources for digitized literary and historical texts, archival objects, and maps. We also provide simple step-by-step instructions for creating your own digital text from nearly any primary source and for involving students in the process. We conclude with a practical guide to copyright and citation practices for the use of digital resources.

Why Use Digital Texts (and Other Assets)?

Electronic texts can serve many functions in your classroom: as a source of course readings; as a provocation for discussing mediation, technology, book history, scholarly editing, typography, and design; as part of a class trip to your local libraries, museums, archives, and special collections; or as the

focus for in-class activities, student presentations, or graded assignments. When considering digital resources, keep in mind that many students still prefer physical copies of books, especially if they are particularly long or if there are issues with digital resources. All the information below assumes that you may be adopting a mixture of physical and electronic course texts, that you are providing accessible versions of electronic materials, that you are allowing students to use physical materials whenever appropriate, or that you are using digital resources as a tool for managing class activities and assignments.

We strongly support the use of—and particularly the *creation* of—free, open-access electronic resources for teaching the humanities, especially for out-of-copyright historical content. These include not only electronic editions of primary and secondary texts (including photographic images of important documents and editions, as well as complete, corrected, searchable texts) but also digital images of historical objects, such as maps, artifacts, and buildings, as well as audio and video assets. As many of the costs related to higher education soar, we as teachers can help reduce students' textbook costs (and relieve some pressure from library resources) by assigning free digital reading and resource materials. Indeed, many of the literary and historical texts we teach are readily available online already, while others are currently coming out of copyright. Beyond the issue of textbook cost, the issue of variant and variable-quality print editions can cause practical difficulties in the classroom. Some of our students, unaware of the legacies of scholarly editing and reliant on Amazon, often will purchase poorly or sparsely edited works or will, being justly concerned for their bottom lines, choose inaccurate open-access editions whose provenance is unclear. By helping to promote or even create new, carefully curated digital resources, we can guide our students toward affordable *and* reliable sources.

Digital resources have some practical advantages over paper anthologies or textbooks when it comes to teaching. They have a far greater capacity for high-quality, full-color illustrations; they are often transferable between devices and forms (i.e., students could view them on a smartphone as easily as on a library computer, or they can even print them out); and they are

helpful for students who will not or cannot carry bulky, heavy textbooks to class. Sometimes they also provide access to resources not available in institutional libraries. Although we often (and usually, correctly) assume that access to technology is difficult for underprivileged students, the internet is more ubiquitous than access to well-furnished libraries in some parts of the world, and many students who cannot afford laptops or home computers do own smartphones capable of loading electronic texts (Cerwall 6), as we will discuss further in

Chapter 2. For teaching newer forms of media, digital sources are sometimes also primary sources.

We advocate not only using such sources as digital text repositories and scholarly digital archives but also contributing to them. Contemporary publishing structures make our participation necessary; it is important to represent the interests of humanist scholars in these matters, rather than allow institutions, publishers, and corporate bodies to determine how our cultural record is digitized and curated. We can adapt streamlined, easy-to-use tools for analyzing or creating electronic texts so that we (in many cases, with the help of our students) can take control over our course material and make our own decisions about digitization and mediation more transparent. Here it is crucial to draw a distinction both for yourself and for your students between "mass digitization" initiatives like Google Books and "critical digitization" initiatives that make their assumptions and processes transparent (see Dahlström). This is especially important because, as Jerome McGann explains in *A New Republic of Letters*, "the migration of the paper-based archives to digital forms" is often "undertaken … by agents of commercial entities like Google, Chadwyck-Healey, Gale, and Kluwer" (21). Despite the good faith with which these entities often approach digitization, relying implicitly on them can be problematic because, as McGann continues,

> The commercial examples are the most troubling from a scholar's and educator's point of view since these entities operate to maximize profit. … Their work on our cultural inheritance, while often very useful, is always marked by cost-cutting procedures that damage or endanger the cultural record. (21–2)

By actively contributing to the creation or maintenance of digital pedagogical materials, we can help ensure their integrity and sustainability.

If you cannot participate actively in the creation of digital materials, you can nonetheless emphasize the quality of the sources you adopt as course materials and by teaching students how to evaluate these materials. After all, evaluating the quality of existing digital texts and archives is not merely what a good instructor does when selecting course readings but indeed, we would

argue, part of being a good scholarly citizen in general. If you ask your students questions about these resources—including interrogations about what is or is not available, and why—digital resources become an object as well as a mode of inquiry. Using and discussing electronic texts with your students can, in other words, provoke important conversations about scholarly values and the commercialization of knowledge if you consciously reflect on the digital nature and provenance of your resources. When you actively critique the resources you use, and when you participate in the creation of the resources you recommend to students, you ensure that the texts your students encounter conform to your scholarly standards of completeness and representativeness.

Beyond these questions of accuracy and rigor, though, digital maps, images, texts, and audio/video assets are especially useful for teaching because of the activities they make possible. For example, searching is facilitated in digital objects, allowing your class to find what they need quickly and efficiently. You can simply execute a simple search command in Alexis de Tocqueville's *Democracy in America* rather than flip pages hurriedly for that quotation about history as a gallery, manually count the number of references to "arms" in the Declaration of Independence, or ask students to reread all of the Federalist Papers, highlighter in hand, to discover if "rule by majority" tends to be accompanied by positively or negatively charged phrases. And with digital texts, "text analysis" does not refer to close reading of appropriate passages in, say, *The Portrait of a Lady* but to a host of approaches that allow machine reading—that is, approaches that rely on computers to identify patterns that the scholar or student interprets in order to drive future research. With software-based approaches like distant reading, corpus analysis, and topic modeling, which we will describe further in

Chapters 4 and

6, you can, for example, easily track and chart Henry James's uses of the word *independence*, compare the serialized first edition of 1880–81 with the revised edition of 1908, or discover conceptual clusters of words that tend to appear together. A network graph or most-frequent-word list cannot (and, we believe, should not) replace the careful, informed reading of Confucius's *Analects* or Arendt's *The Human Condition* or Marx's *Capital*, but digital texts do allow you to plumb them in ways not possible or extremely time-consuming with traditional texts.

Finding and Evaluating Digital Resources

Because the copyright holder of a piece of useful content—whether a press, an organization, an institution, or a private citizen—may have any number of attitudes toward digitization and copyright, it's always worth checking if the resource you need is already freely available online in some format. You may be pleasantly surprised about what you find. For example, there are many prominent large-scale repositories, including Internet Archive, HathiTrust, Google Books, and Project Gutenberg, each containing millions of digitized texts. Each humanistic field and subfield has, additionally, its own particular clusters of resources. In the field of modernism, for example, which is both C and S's research area, we rely on large-scale projects, such as The Modernist Journals Project, The Modernist Versions Project, and the Yale Literary Lab, as well as small-scale repositories, such as the Harlem Shadows archive and Mina Loy Online. We work actively to create and promote these resources; C is a founding member of the Modernist Archives Publishing Project (MAPP). These examples are literary in nature, but this does not mean that the repositories would only be useful in a literature classroom or that such initiatives are solely literary; search in your field for just a moment, and you'll find similar projects that you can benefit from and participate in.

So how do you choose a reliable repository? Resources that consistently draw a large pool of users and strong sources of funding are the resources whose assets will (probably) not suddenly disappear. This is partly why even new digital assets associated with renowned libraries such as the British Library or the New York Public Library (NYPL) tend to be good places to start. They are grounded in a supportive, publicly funded library infrastructure and usually have been designed with robust metadata standards in mind. This means that, much like a respected publisher's imprint, their affiliation with an established institution and its practices often leads to the creation of reliable, stable resources.

Some resources might offer opportunities not only to interact with their assets but also to contribute new materials. A "Get Involved" button is a strong sign that you have found one of these resources, and "Log In" and "Sign Up" buttons are even better signs, as registered members can save materials and track their own engagement with the resource. For example, Digital Public Library of America (DPLA) is a best-case scenario for digital resources. DPLA has created a noncorporate, large-scale digitization model through the public library system, not only providing a fantastic resource to students but also contributing solutions to some of the problems with existing digital resources in the academy (the very problems McGann raises in his critique of corporate resources). Looking at this attractively designed site (http://dp.la), you will notice the multiple potential points of engagement with their materials—including searching, browsing exhibits, interacting with timelines, and downloading apps—which means that you can design many different types of assignments from the one site. Furthermore, whereas a novice digital pedagogue can browse the educational outreach materials on the "Education" tab, once you have some experience with code, the "For Developers" tab will allow you to use the same materials at different stages in your (or your students') mission to bring computational approaches to bear on library materials. If you still do not know where to begin, watching a detailed, hour-long YouTube video, "Using DPLA for Teaching and Learning," can actually save you time in the long run by providing concrete ideas. To keep up with the new activities and resources offered by libraries

and institutions, you can follow DPLA on multiple social media outlets (the usual suspects—Twitter, Facebook, Pinterest, Instagram—as well as some not-so-usual ones, including Imgur, GitHub, and Storify). Social media provides a low-pressure way of staying updated about DPLA's opportunities for your classes.

As our recommendations of the DPLA and the NYPL suggest, to evaluate the quality of sources, first look for signs of institutional sponsorship (typically links to colleges and universities but also to galleries, libraries, museums, and governmental agencies). This sponsorship is key for long-lasting resources because it implies consistent staffing, tight links with active scholars, and some degree of funding or in-kind support. Such resources may also come from grants, which is a positive sign because it means the project has undergone peer review. Other indications of peer review can be useful as well—particularly endorsements by academic or professional organizations. In fact, some DH organizations, such as NINES and ModNets, were designed in part to meet this need of peer review for digital resources, and increasing numbers of resources are conforming to the standards set out by these organizations. Positive reviews in academic journals obviously represent even more transparent and detailed peer evaluation.

Once you have identified a helpful resource, it's important to make sure you have explored all of its available offerings. For example, The Orlando Project, a powerful, next-generation encyclopedia that contains a wealth of information about women writers in Britain, also hosts OrlandoViz, a useful tool that visualizes networks of influence among the writers featured in the primary resource. The Modernist Journals Project, though its stated aim is to host digitized editions of influential little magazines, also runs a Project Lab, which offers visualizations based on its assets, allows users to download its data sets, and provides a wealth of sample activities and assignment sheets for teaching with the resource. Many archives and resources offer suites of research or teaching tools, such as The Map of Early Modern London, Mapping the Republic of Letters, The Bentham Project, The Mark Twain Project Online, and the digital image collections of the NYPL. Many of the creators and editors of these sites are also usually very happy to know how

and when their resources are being used in the classroom, so it can be an excellent idea to contact members of a digital project team directly if you have specific questions. Usually, they are more than happy to help, as your questions and concerns will help them improve the quality of their resources.

Finally, when searching for digital resources, make use, above all, of your libraries. Librarians are your best local resource for help. In some cases, you may have a subject librarian you can depend on, and if you are very lucky, you may also have a DH librarian or an education librarian who is willing to work with professors who are not in the education department.

Creating Digital Resources for Your Students

The hyperbolic argument that "everything is online" has become quite common, appearing in venues as diverse as TVTropes.com and the *Harvard Business Review*. This is, of course, not quite true. As you will have seen from the wide array of resources we've listed here and in the Web Companion, there are many full texts available online in a variety of formats, and it is frequently possible to find what you need by carefully searching existing resources. However, there will be times when the text you want to teach has not yet been digitized by a scholarly project or by a major digitization initiative like Google Books or HathiTrust. At other times, you may discover that some PDF you found last year by a quick online search, or perhaps a lovely set of images curated as part of a temporary exhibition, will have disappeared without a trace right when you need to share it with your class. After all, the priorities of a university classroom are not always the same as those of a library or tech organization, and you might find that your own interests have not yet been met by existing repositories that are freely and easily accessible, or if they were once met have not found the funding or infrastructure to be maintained. Rather than changing your syllabus to reflect the content you can currently find online, or do the labor of manually saving these resources on your computer or cloud to make them available later to

students, you might wish instead to create and publicly host your own texts to use in the classroom.

One good reason to create your own digital texts is if you or your institution has access to rare books or paper copies of periodicals that are hard to come by. (S, for example, owns paper copies of *The Adelphi*, a modernist literary journal, that had not been digitized elsewhere when she acquired them; and C has a full run of the Penguin *New Writing* series edited from the 1930s through the 1950s.) These kinds of materials might be extremely useful for teaching: they show the original positioning of texts in their material contexts and sometimes provide different versions of well-known works. Some rare materials are also unlikely to be prioritized, especially if they exist in any kind of ephemeral form like a magazine or a pamphlet, by some of the larger digitization initiatives. Your own libraries may have texts, images, ephemera, or other archival assets that would be welcomed if you and your students helped to get it online. There is also a pedagogical advantage to creating digital versions of your or your institution's own copies: your students this way can see not only the surrogate (the remediated version) through the screen but also the original material object.

Another incentive for creating your own texts is if you're teaching a time period during which primary sources are still currently protected by copyright regulations. We discuss copyright in more detail in the final section of this chapter, but if you work on any materials published after the start of the twentieth century, you are likely to find that images are watermarked and video is non-embeddable on other sites, while only "snippet view" or preview versions are available for certain texts. Sometimes, even materials with recently lapsed copyright protection are not available online because of excessive institutional or organizational fears about copyright that results in simply avoiding all materials published later than the nineteenth century, even though some of these materials are indeed in the public domain. This does not mean, however, that you cannot do analytical work on copyrighted texts, or that you cannot use them in the classroom. It simply means that you are likely to have to take some of the specific steps we suggest later in the

chapter to ensure that you abide by copyright law. It also means that you will almost certainly have to create these digital assets yourself (sometimes exclusively for your own use in the classroom).

Beyond the creation of digital surrogates, you might at some point want to create another kind of digital resource—a syllabus repository, say, or a teaching blog, or a digital exhibition, or a collaborative mapping project—in order to preserve and share the work you and your students have done in a particular course. The skills required to make these kinds of resources are in many cases relatively easy to learn and do not necessarily demand a budget or any information technology (IT) assistance. Content management systems (CMSs), many of which are free, are designed to allow users to add material and publish it online without designing and coding a website from scratch. Reliable and appropriate entry-level CMSs for DH classroom include Omeka—designed especially for humanities scholars and librarians who want to create their own digital exhibitions—and WordPress, which can be used effectively with little or no actual computer coding. More detailed instructions about how to share the digital resources you make (provided, of course, that you have thought about copyright implications), publish teaching-related blogs, or share teaching materials are available in the Web Companion. You can also, in many cases, share your resources through a larger collaborative initiative, through a shared syllabus hub, or through your institution's existing web resources.

Creating Digital Resources with Your Students

It may be the case that instead of creating all your course materials *before* the class begins and using your newly digitized materials just as you would a textbook or an existing digital resource, you wish instead to spend some class time familiarizing your students with the processes involved in turning the material world digital. This not only allows you to "crowdsource" the production of digital texts (and, to that end, allow each student or group of

students to work on their own texts, objects, or images) but also, to our minds, is important and empowering for students. Students begin to understand exactly what goes into the process of digitization, increasing their own digital literacy and allowing them some independence in selecting and creating their own materials. When students help to create digital surrogates of their own course readings, substantive issues in scholarly editing and annotation can also be taught well with this kind of hands-on approach. This chapter focuses on course readings, but bear in mind that resource creation is not limited to course readings: students might also produce digital surrogates of visual materials or even objects (such as paintings, sculptures, historical artifacts, or significant buildings or landmarks). They might also create reference materials or study aids, such as maps, timelines, glossaries, biographies, bibliographies, encyclopedia articles, podcasts, pinboards, or videos.

Consider Table 1.1 as a guideline for determining the best opportunities for creating resources with your students (bearing in mind that your particular situation will always pose unique affordances and difficulties).

TABLE 1.1 *When to (and When Not to) Create Resources with Your Students*

A Good Time to Create Digital Resources with Your Students	**A Not-So-Good Time to Create Digital Resources with Your Students**
When you have already taught this course (whether with or without digital components)	When you are prepping a brand-new course or are still doing primary research for it as you design the syllabus
During a semester when you have ample office hours (or "email hours")	During a semester when you cannot devote time to helping students troubleshoot
For a course whose aims are clearly understood within your department	For a course whose content or description is new, contested, or under review, by your department

A Good Time to Create Digital Resources with Your Students	A Not-So-Good Time to Create Digital Resources with Your Students
When the particular subject matter of your course is esoteric, unique, or specific and is thus underserved by extant digital resources	When the particular subject matter of your course is already well-represented by high-quality digital resources
During a semester when you are likely to enroll repeat students	During a semester when you are likely to encounter new students, whether because you are new to the institution or teach only first-year students
For a course intended as a capstone or special-topics course	For a course intended as an introduction to the major, a remedial opportunity, or an exhaustive survey
When the course's desired outputs are not determined in advance by requirements for core curriculum courses or for courses required for the major	When the course is intended as a writing-intensive class that will teach your students "traditional" skills
During a semester in which you have more opportunities than usual to consult with librarians, colleagues, or archives; or in which you have curriculum development funds	During a semester in which you need to devote your time to research or will be otherwise disconnected from potential support communities
For a course whose outcomes and course content are intimately related to textuality, book history, media/mediation, digital cultures, or technology	For a course whose outcomes are so theoretically inclined that the creation of digital resources would jar unproductively with the tasks of digitization

If, after scanning this chart, you believe your course is an appropriate choice for creating material resources with your students, ideas for creating digital resources with your students appear in this book in

Chapters 4 and

6. Above all, be honest with yourself regarding how much time, energy, and resources you can devote to creating digital resources (whether for or with your students). For now, if you would like to create a new digital text, map, or image for your students before the semester starts, you can follow a fairly simple process, outlined in Figure 1.1.

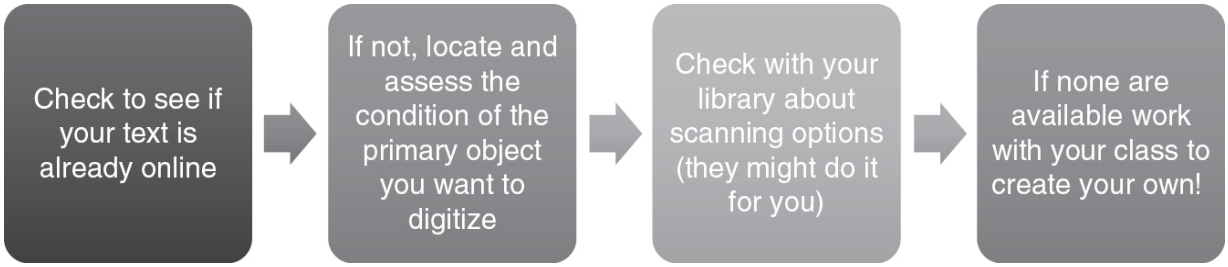

FIGURE 1.1 *How to create resources with your students.*

A Short Guide to Citation and Copyright

Citation Standards

One of the anxieties that plagues both students and teachers new to using digital resources is the question of citation. Many of the scholarly and institutional resources we mentioned earlier provide sample citations to assist with attribution, or may even be so helpful as to have a link or even just a sentence that says "How to Cite This Page" and offers a variety of different styles of citation. Knowing that this help is often provided will also help you to provide citation information when you are creating and sharing your own digital resources. In fact, we highly recommend the inclusion of a "How to Cite" resource or sample citation in the documentation for your newly created editions and websites; it will be the easiest way to ensure that your resource gets the credit it deserves. Some older, less scrupulous, or less comprehensive digital resources, however, do not provide ready access to the details required to create an MLA or Chicago-style bibliographic entry. What do you and your students do in this case?

The short answer is that you should still cite the webpage or resource as best you can, in the closest approximation of the style guide appropriate for your discipline. Students sometimes, whether in the absence of information about the provenance of a digital text or out of fear and worry about the status of a resource, avoid proper citation altogether. The most common example is of students using Wikipedia for information but feeling uncomfortable citing it as a reliable source and instead omitting it from their bibliographies. This kind of avoidance is obviously a violation of academic integrity, but in many cases it is unintentional on the students' part, so we would encourage a frank discussion about the nuances of digital citation. The bottom line is that students should always cite, even if they are not entirely sure they're doing it correctly, or whether the source is a reliable one. There is a strong culture of citation in DH discourse (even in less formal settings), and the ethos is always very much that even in an open space, credit should always be bestowed where it's due. In DH-inflected teaching, citing Wikipedia is not, in other words, considered a sign of bad research; in fact, it will be considered a sign that the author has been particularly attentive and honest in their citation practices.

Essentially, you should simply do your best to cite by seeking the best available information and then including as much of that information as possible while constructing your citation. But to provide a bit of nuance to this general advice, we want to emphasize that you will always want your students to indicate when the digital *is* digital. Both to be honest in our research and to be able to trace the importance of digital resources in academia and higher education, we must all fight the unfortunate "culture of noncitation" that Jonathan Blaney and Judith Siefring's article of the same name so passionately decries. Explain to your students that it is important always to indicate that you have used, for instance, the Project Gutenberg version of Adam Smith's *The Wealth of Nations*, not a first edition or an excerpt in an anthology.

Copyright Regulations

If you plan to create your own digital texts from first editions and print copies of books, you might well be wondering about the copyright implications of this kind of reproduction. And you would be right to wonder. Copyright in the digital realm is a terribly complicated matter. For example, the recent class action lawsuit filed against Google Books by the Authors' Guild and the Association of American Publishers and the ensuing series of rejected settlements has caused heated debates about fair use, antitrust laws, and the nature of books as commodities (see Bates; Fraser). A thorough examination of the landscape of contemporary copyright issues in the digital context is beyond the scope of this volume, though we have provided some of the most interesting readings on this fraught and fascinating subject in the "Further Reading" section of this chapter.

The question we want to address here, however, is far more straightforward: What do you actually need to know about copyright when you are thinking about creating digital texts or using digital assets in the classroom? Just as we earlier advised not thinking about "learning how to code" or "learning DH" in general, but instead suggested you think about learning how to meet a particular, limited goal, we would similarly suggest focusing your copyright concerns on the particular use case at hand. You should of course consult copyright professionals at your local institution (most universities have a copyright officer and/or librarian who can help you with specific legal questions you might have). When at all in doubt, definitely seek expert advice! However, it does help to have a few general resources and principles at hand. To begin doing so, you should first know that there are three main areas of copyright law that you will need to be familiar with: public domain, fair use, and Creative Commons (CC) licensing.

When determining whether the material at hand is in the public domain, the first question to ask yourself is: Is the work, image, video, or audio clip I want to use protected by copyright? Even that answer does depend on your location. Table 1.2 provides a highly simplified guide to when works that were published during the author's lifetime (but cases in which the author has since died) would enter public domain.

TABLE 1.2 *Public Domain Guidelines by Country*

Country	When the Work Enters the Public Domain
Canada (and Berne Convention Countries)	**For published, written works:** 50 years after the death of the author. If author is unknown, 50 years after the date of publication or 75 years after the date of creation, whichever is earlier. **For photographs:** All photographs taken before 1949 are in the public domain. For photographs taken after 1949, the regulations are as above.
UK	70 years after the death of the author or creator. If the author/creator is unknown, 70 years after the date of publication.
United States	70 years after the death of the author; if the author is unknown, 95 years from publication or 120 years after the date of creation, whichever is shorter.

If the work you would like to use falls into any of the categories listed in Table 1.2, you can use it quite freely. If your work does *not* fit into one of these categories, you may still be able to do some digital work with it, but there will be some restrictions on what you can do.

Here, a concrete example will be most illustrative. Say you would like to teach *The Vanishing Half* by Brit Bennett, published in 2020. This novel is recent and is therefore obviously still protected by copyright. Bennett still earns royalties from this book, and they support her livelihood as an author. The publisher still sees this book as a source of revenue. In short, each of your students will need to buy this book if it is to be used as a primary course text. For novels, fortunately, the cost per title is not often as prohibitive as it can be for academic books and certain kinds of scholarly editions.

Say, however, that each student in your class has purchased a copy of *The Vanishing Half*, but you would like to show your students a two-page selection from this novel and close read it in class during an exercise. You might wish to have an image of the cover up on your PowerPoint slide during the class and to discuss the novel's literary and cultural reception. Say you would also like to scan the short passage, run and correct OCR (Optical

Character Recognition) on it, and use some of the digital text analysis tools we describe in

Chapter 7, "Creating Digital Assignments," to analyze the language of this passage. All of these classroom uses of the work would be covered by "fair use," sometimes also called "fair dealing." Fair use protects the use of copyrighted materials for educational purposes, and the previous examples that deal with in-class work with extracts even of copyrighted materials are protected under this stipulation.

If you find the possibilities governed by fair use to be too restricted, you are not entirely out of luck, even when it comes to copyrighted works. One way of dealing with copyrighted texts, illustrations, sound clips, or objects is to write directly to the copyright holders and ask for their permission to use the materials. The Writers Artists and Their Copyright Holders (WATCH) database, administered by the Harry Ransom Center and the University of Reading, is a tremendously useful resource for finding out who owns the copyright for a particular text at a particular moment (and it can be especially useful for locating the family members or other estate holders of artists or writers who have died but whose work has not entered the public domain). In general, noncommercial and classroom uses are welcomed by estates (though there are some notable exceptions), and it is relatively rare to have permissions requests denied outright. This option can be time-consuming, however, and though estates are not often against the use of copyrighted materials, they can be slow to reply, so if you do want to take this route, it is important to start the process several months ahead of time.

One final important point to consider when it comes to copyright is that it is not only primary work (writing, painting, songwriting, etc.) that is protected by copyright. Substantive scholarly editorial work, high-quality photography, and new editions with revised and updated materials are also protected since they often contain new intellectual property in their footnotes and introductions. You will find, therefore, that though the 1861 edition of *Great Expectations* is in the public domain because its copyright term lapsed long ago, the Norton Critical Edition from 1999 is still protected. It is therefore essential to ensure that you are scrupulous about which edition you and your students are using when you decide how to proceed, and that you use Table 1.1 to check the actual edition you plan to use. For further

information about these matters, consult the *Chicago Manual of Style*, seventeenth edition, which contains a helpful chapter on copyright by William S. Strong.

Creative Commons Licensing

CC licenses, which can be invoked by authors and artists who place their work online, can be granted in order to allow the use of works that would otherwise be protected. The main advantage of these licenses is that they allow the content creator to open up their work for specific kinds of uses but to restrict other (usually commercial) uses that might cause them to lose income or credit that should belong to them. Many historical digitization projects, from Europeana to the Emily Dickinson Archive, use CC licensing to clearly indicate what kind of uses of their resources are permissible and which are not. There are six basic kinds of CC licenses. The most restrictive, Attribution–Noncommercial–No Derivatives (CC BY-NC-ND), prevents both commercial use and any kind of remixing, reusing, or artistic repurposing of the work. The least restrictive allows a creator to release their work entirely into the public domain (CC0). A work can arrive in the public domain, where anyone may use it for any purpose, in one of two ways. Either the term of its copyright expires, as in the conditions outlined in Table 1.1, or the creator specifically grants a license that allows *any* use of a given work. If a work has arrived in the public domain by either of these means, you really can do whatever you like with it.

The CC is part of a strong social movement for an open, creative web. There are two practical ways in which these licenses might prove relevant to you as a university teacher. First, you might use a resource that licenses its materials using a specific kind of CC license, so you will need to ensure that you abide by the terms of that license. Second, you might want to grant one of the six kinds of CC licenses to those who access digital editions or resources that you or your students have created. If you do wish to grant a CC license for use of your own teaching material, you will likely want to employ the

terminology and symbolism set out on the official CC licensing website (creativecommons.org).

Perhaps the most interesting way you might wish to think about using CC resources or licensing is to make intellectual property in the digital age a point of discussion with your class. The many animations, plain-language guides, and essays provided by the CC community can be excellent starting points and resources for teaching issues around openness and creativity in the digital realm. Helping your students learn about copyright regulations and about the CC and its implications can enhance their ability to be conscientious, creative, respectful, and (most importantly) empowered digital citizens. After all, the task of understanding the human costs and opportunities of the digital age is one well suited to humanists, and your students can constructively apply their existing knowledge about ethics, economics, critical thinking, social construction, and cultural history to these issues.

Conclusion

All of the suggestions in this chapter are meant to expand your horizons when choosing your course materials. Look beyond your campus bookstore to find materials that are rare, out of print, or not available for purchase in hard copy, as well as materials in other media. Images, video clips, and audio files can enrich your course content, giving you and your students a refreshing change of pace and a different point of entry into your discipline. Do not be deterred in advance by assuming that copyright or fair use law will not be in your favor: often permission for use is just a search in the WATCH database and an email away. As Judge Alex Kozinski has ruled, "Overprotecting intellectual property is just as harmful as underprotecting it … Overprotection stifles the very creative processes it's supposed to nurture" (qtd. in Aufderheide and Jaszi 16). Whether your find existing digital resources or must create such resources, making ample use of them will

minimize your students' textbook bills; enlighten your students to the wealth of research materials they can source online; and provoke discussion on the nature of intellectual property, transmission, and digitization in your classroom.

Further Reading

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2

Ensuring Accessibility

This chapter offers some suggestions of ways we can use digital humanities (DH) methods to teach students of all abilities and backgrounds and to protect the safety and privacy of all students. These techniques are based on Universal Design, which stipulates that resources must be designed in such a way that they are usable by anyone, regardless of age or ability, and with a minimum of post hoc adaptation and extra costs. Applied to education, Universal Design refers to our responsibility to make sure we construct our courses and all related materials so that all students can meet the learning outcomes from the course. Whether a student lives with limited mobility, hearing, or sight; with a chronic illness; or with neurodiversity (including those on the autism spectrum or diagnosed with ADHD), to name just a few examples, they can benefit from your DH experiments if you plan them with all learners in mind. The six primary goals of this chapter—facilitating lectures, promoting universal interactivity, providing accessible resources, considering multiple intelligences, tailoring your policies for individual students, and ensuring privacy and safety—strive to meet the principles of Universal Design.

Universal Design

The term "Universal Design" was coined by the architect Ronald Mace in 1985. Today, it refers to a widely followed set of standards that are maintained by North Carolina State University's Center for Usable Design. As Connell et al. (who are based at this center) explain in "The Principles of Universal Design," these standards specify three types of use. The standards first require "equitable use," which means that products and services should not require additional adaptation to be usable by any person. Second, they require "flexible use," meaning that they should allow choices in method and pacing. Finally, they require "simple and intuitive use" by being approachable, graspable by intuition or through different literacies. To satisfy these three uses, they should offer easily "perceptible information" (that they should be perceptible to a wide range of sensory abilities) and a high "tolerance for error" (they can still be usable even assuming a margin for user error). They should only require "low physical effort" (they do not cause discomfort or fatigue) and incorporate a sufficient "size and space for approach and use" (that they should not require actions or movements without providing the necessary space for a variety of body types, postures, or degrees of mobility).

One classic illustrative example of Universal Design in action is the "dropped curb" at a busy intersection (that carefully graduated or ramped curb that obviates the need for steps). The dropped curb is convenient for all pedestrians—not only those traveling in wheelchairs, pushing strollers, or riding skateboards—just as Universal Design in a course work context, as we will show, can help *all* your students. Beginning your class with an overview of the day's activities and topics, for example, might reduce the anxiety of a student with autism spectrum disorder, yet it will simultaneously improve your other students' retention by clearly signposting the goals of the lesson. As a bonus, it will help you double-check the timing and logical progression of your course session. Doing this advance planning, even before you meet your students, also means that you do not have to depend entirely on

students self-identifying or on a mistaken belief that you will easily "see" a disability or receive accommodations documentation from your university's accessibility services program, for this is not always the case.

It is worth noting that some scholars find many problems with the discourse of Universal Design (see Keralis and Hsy). One of the chief objections to the Universal Design principle is that it is a utopian way of thinking that risks erasing individual differences and/or nuances, and indeed, we understand that using Universal Design in the classroom is only just scratching the surface of accessible pedagogy. However, we still believe that Universal Design offers a helpful ideal and a set of principles that can make our courses work for the greatest number of our students.

In addition to the following tips and software that we recommend, you will also likely have an accessibility services office at your institution. Opening up channels of communication with your institution's resources—ideally during the process of course design rather than after the semester or assignment has begun—will ensure that you are working in line with your institution's policies. It will also open up the specific technologies and facilities that are available to assist you in making your course as accessible as possible for all students.

Facilitating Lectures

In an education context, Universal Design calls for producing information in multiple outputs (or formats) to ensure that those with visual, auditory, or other impairments can access your course materials. There are many digital tools available to promote this kind of multimodal learning. Many of these resources and tools can be useful for any student, whether as study tools to help them remember lecture materials or as ways of translating auditory and visual experiences into more comprehensible forms.

Speech-to-Text

In their 2002 article, "Speech Recognition in University Classrooms," Keith Bain, Sarah Basson, and Mike Wald address the question of whether speech recognition software could be used to digitize spoken materials from lectures for the use of students. Their experiment involved the use of speech recognition software that displayed text on a large screen at the front of the classroom in real time as the lecture was being delivered. They found, unsurprisingly, that the resulting experience—of both visual and auditory exposure to the lecture materials simultaneously—not only assisted hearing-impaired students but also helped the whole class with retention and, especially, with their ability to take accurate and detailed notes.

In the twenty years since Bain, Basson, and Wald conducted their experiment, significant advances have been made in speech recognition software that help to address their primary challenge in using this method, which was the inaccuracy of the digital transcriptions produced by the software. "Dragon Anywhere," which can also be downloaded as an app for iPhone or Android, remains one of the leading programs (and the one that consistently receives the highest accuracy ratings). However, there are now also several free and open-access options, including "Dictation" and Google Cloud's "Speech to Text," that require only a web browser in order to operate. With a projector and one of these programs, you could easily and freely implement simultaneously displayed text and speech in your own classroom. An additional advantage of this approach is that it also preserves the text of your lecture for your later use (or, if you choose to share the transcriptions with students, for their further use beyond your course).

Voice recognition technology can also have benefits beyond the lecture itself. Students might find that speech-to-text tools can help them write. Many of us have encountered a student who excels during in-class discussions and participates eloquently in classroom presentations but then struggles with writing when it comes time for the course work essay. A speech-to-text app or program for the student might allow him or her to get all those great ideas down by speaking into his or her phone or computer and then refining those

ideas by editing. This method can also be helpful for students suffering from writer's block. Speaking a few notes or sentences (or even reading quotations out loud) can help such students get started. Another option for providing textual as well as auditory experiences in lectures is to take your own notes in real time, based on student contributions and discussion. The low-tech option is to do this on a blackboard or a whiteboard (in-person or in a "virtual whiteboard" for which we provide software suggestions in

Chapter 11) simply creating a temporary record to help students focus their notes and retain the main points from a lecture (as opposed to its entire detailed contents).

Multimedia/Multisensory Tools

Many of us already use images, sound clips, videos, and interactive activities in our teaching to break up long lectures and ensure that students are able to stay alert and focused. These multimedia approaches, however, have additional accessibility benefits because they cater to a variety of learning styles and needs. With a little bit of additional attention, multimedia tools can promote accessibility and expose students to the particularities of a variety of media in addition to disseminating course content in attractive and exciting ways. For instance, one important element of Universal Design is ensuring that, whenever possible (as in the simultaneous speech-and-text example), more than one communicative mode is in use at once. A very simple example of this multimedia/multimodal approach is to ensure that when using a PowerPoint, Keynote, Google Slides, or Prezi presentation, each of your images is supported by a written caption and each is *also* described out loud by you. This simple technique ensures not only that you are using images that are especially well suited to enhance your lecture (as opposed to an "images for the sake of images" approach) but also that all students can perceive and understand the images.

There are, of course, many more ways to introduce multimedia approaches into your classroom that can assist student learning on a variety of levels. Perhaps you might create animations to illustrate concepts, using free software like Wideo or PowToon, among others. You might also use video clips, now readily available online through YouTube as well as organizations such as the National Film Board and the British Film Institute. These are easily downloadable and editable into your own offline presentations to avoid buffering issues and to allow you to select appropriate clips. Or you might also use images or sound clips sourced from your own research or from a wide variety of digital repositories (including ArtStor and

public domain images from the New York Public Library, the British Library, and many others).

One multimedia option popular with students is incorporating games or interfaces specifically designed to teach in your subject area. ClassDojo and ClassCraft can help you "gamify" any class, for example. Some specific examples of these gaming approaches in practice include the gamification of Hieronymus Bosch's *Garden of Early Design* by Elizabeth Goin and a role-playing game developed by Keri Watson for students to explore the development of modernism in the fine arts in late-nineteenth-century Paris.

Recording Devices

Some of you may already have encountered students who ask for permission to record your lecture for their own later use. This can feel like a vulnerable exercise: all your off-the-cuff remarks, your extemporaneous digressions, and your halting attempts to deal with student questions or interruptions will be captured on these recordings. It can be difficult to feel comfortable setting your classroom performances free in the world. Yet recording devices can be indispensable tools for students who might benefit from listening to lectures again in order to gain a full appreciation of what was said. And it's important to remember that all students can benefit from lecture capture in sometimes surprising ways. One of S's students in her course on Sherlock Holmes, for example, liked to listen to mp3 files of her lectures during workouts at the gym as a method of brainstorming before writing essays.

If you are concerned about the circulation of the recording of your lecture beyond the classroom and the university, you may wish instead to provide the student with your own recording and limit the terms of use (or ask the student to sign a short contract specifying the uses they can make of their own recording). Creating a recording of your lecture is very simple and can be done on most mobile phones placed on a podium and left to record for the duration of the session. For a higher-quality option, you can consult with your information technology (IT) department to see if there are portable microphones and recording devices that can be borrowed for the purpose of

lecture recording. In some cases, you might be able to reserve a room in your campus that has such technologies permanently integrated. Even better, taking control of your own distribution of the recording means you can also consult the Creative Commons licensing scheme, described in detail in Chapter 1, in order to determine, permanently and publicly, the uses you would like to allow and those you would like to limit.

Promoting Universal Interactivity

Though it is important to make your own lecture materials accessible to a variety of different students' needs, it is equally important to make sure they have the tools they need in order to engage with other course materials and to participate actively in the course. Ensuring universal interactivity means making sure that students not only feel comfortable in the lecture setting but also participate in class and actively interact with course materials outside of the classroom.

Beyond the Lecture Hall: Text-to-Speech and Transcription Services

Text-to-speech tools are often used by visually impaired users of digital texts and websites, but they can be much more broadly useful. Functionally the opposite of the speech-to-text tools discussed above, text-to-speech tools read aloud words that appear on the screen. You will have used text-to-speech tools yourself if you have ever spoken to Apple's Siri on your iPhone to have a grocery list, weather update, or web search result read aloud. There are a variety of free text-to-speech tools (including one produced by Google, a crowdsourced natural voice version called IVONA, and NeoSpeech, among many others), but the easiest way to promote the use of these tools is to ask your students which browsers they typically use and to

show your students how to use the integrated text-to-speech options that are native to (i.e., automatically included in) the browsers they use already.

The ability to use text-to-speech tools is yet another good argument for using open-access digital resources for textbook adoption. If the text you assign is available in plaintext or in a web version, any student can use text-to-speech software in order to have the whole text read aloud to them. Check if your text is available digitally and can, from this digital text, be imported into a text-to-speech tool. In the case of copyright-protected works without easily accessible digital versions—like our example from Chapter 1, Brit Bennett's recently published novel *The Vanishing Half*—you might consider investigating whether audiobook versions are available to serve this purpose (either through the publisher or through aggregators like Audible). And make sure to check free audiobook websites, such as LibriVox, to see if there is a public domain audiobook that students can download.

If you are providing videos, audio recordings, screencasts, and the like, you will need to provide transcripts (or, in the case of videos, captions) for these as well. If you lecture from a script, you just need to upload this script alongside the link or file to your podcast or video, but because many of us work from slides, notes, or memory, you will need to find a solution for transcripts and/or captions that works for you. And in the case of a video or screencast, it's even better to supply captions right on the visuals themselves instead of, or even in addition to, supplying a separate text file. If you can apply for institutional funds or be reimbursed for a paid service, try apps like Otter.ai, Rev.com, and Thisten, which can provide transcripts of recorded audio or Zoom sessions. Free automatic transcriptions are easily turned on in YouTube—in YouTube Studio, select the designed language for your captions in the Subtitles menu—but their artificial intelligence software often makes mistakes; for more accurate captions and transcripts for videos, try creating your content with Kapwing instead. Zoom also provides an automatic transcription service for both live and recorded presentations. GoogleSlides and PowerPoint allow you to present your slideshow with automatic, live captions, so just press the CC button in the lower left corner to present your slides in real time with live captioning. Or a free screen recorder—such as

OBS Studio, Loom, Panopto, or Screencast-o-matic—to ensure that your captions are saved and synched to your presentation. There are many other free options if you are willing to record a slide-based lecture and use video-editing software like iMovie to add captions manually (most video-editing software allows this option; see

Chapter 11).

Universal Design and Interactivity in the Classroom

In "Workshop: Universal Design for the Writing Classroom," Andrew Lucchesi explains how he has adapted the Universal Design for Learning (UDL) approach in ways that are applicable to all humanities classrooms. He explains that the UDL approach is structured by three basic questions: "How do you communicate with your students?" "How do you expect students to demonstrate what they know?" and "How do you allow for multiple kinds of engagement?" (Lucchesi, pars. 14–16). Consider the ways your students will encounter course texts and materials. Lectures and slideshows can be designed under UDL principles: make lectures available in print format, for example, and check that students with low vision can see color schemes and images on slideshows. If possible, offer students alternative ways to demonstrate their knowledge (allowing evaluated work to be submitted in different media, for instance), and give them opportunities to participate in class in multiple ways (not solely through class discussion, for instance). By considering these three questions *before* the semester begins and by brainstorming obstacles that your students may encounter in your course, you can anticipate the kinds of accommodations that individual students may need —and better yet, craft your course to incorporate principles of UDL from the very start. Because a thorough set of suggestions is beyond the scope of this chapter, we recommend that you refer to Jay Dolmage's wonderful guide, "Universal Design: Places to Start," which includes tips for classroom arrangement; lecturing; group work; and designing assignments, tests, and course materials.

Implementing the Three Principles of Universal Design

Having established the importance of ensuring that your students can both understand and access your lecture materials and also engage with readings and other course materials, we now offer some further practical tips and strategies for implementing Universal Design principles into your course design and practice in Tables 2.1, 2.2, and 2.3. Our suggestions were based on the article "The Three Principles of UDL," provided by the National Center on Universal Design for Learning. These principles involve providing multiple means for representation (what the students learn), for expression (how they demonstrate learning), and for engagement (how to keep students motivated).

TABLE 2.1 *Ensuring Multiple Means of Representation*

Text-based course materials	Course materials should be customizable: users should be able to change color, contrast, and size. If possible, provide course materials in plain text, which can be converted into other fonts (i.e., dyslexia-friendly fonts). Hyperlinks should be accompanied by some indication of what that link contains.
Image-based course materials	Images should be manipulable (to change size, color, and contrast). Find the largest DPI image you can (one with fine resolution); use SVG images when possible. Test images and figures to see if color-blind students can perceive the relevant information. Each image needs a caption and alternate text. Test your materials using one of the many automated accessibility checkers available online.
Audio- and video-based course materials	Users should be able to adjust the timing, pacing, and volume of audio and video assets. Text alternatives should be offered: videos should be captioned, and audio texts should have a transcript. If possible, provide tactile indicators (like vibrations) or objects. Be ready to describe or summarize sounds or images.
Lectures	Use screencasts or multimedia lectures to boost accessibility. Refer to

	Chapter 11 for accessible software recommendations and more.
Slideshows	Use high-contrast colors. Limit the number of colors you use. Do not use complicated background images. Make use of a legible, standard font in a large font size; do not switch fonts frequently. Do not try to fit too much information, as white space is important for processing visual data.
Library days, field trips, or site visits	Ensure beforehand that the building, space, and pathways getting there are wheelchair accessible. Check if your institution will set up free transportation. If there are unavoidable problems, try to bring these experts or materials to your class (or connect the student through videoconferencing), and make sure to register your concerns to your institution's office of disability.

TABLE 2.2 *Ensuring Multiple Means of Expression*

Class discussion	Guide discussion to minimize excess noise or other sensory data that could cause anxiety or confusion. For students who have difficulty speaking in class, allow them to write down comments or talk to you during office hours, or use a class Twitter stream or chat room (projected on the wall so all can see).
Classroom activities	Design activities so that student can choose among many options for participating. Allow for physical movement for students who benefit from it while, for those who have mobility issues, not absolutely requiring it for participation. If necessary, rearrange the classroom to eliminate physical obstacles.
Graded assignments	Share examples of student works, and write assignment sheets that are as detailed as possible. Introduce students to spellcheckers, grammar checkers, text-to-speech software, or free tutorial services. Allow students to use human dictation as needed. For a longer assignment, break it up into multiple parts, with checkpoints or "goalposts" to guide their progress. Provide a checklist for submission and give multiple reminders. Share the learning objectives for the assignments and/or grading criteria, and remind students where they can access this information.
Quizzes and	Some students will require extra time for completing quizzes and tests, while others

tests	might require other formats. In some cases, you may want to offer alternatives (such as oral quizzes during office hours or electronic submission of essay exams).
In-class presentations	Be flexible about the format of class presentations. Some students may prefer pressing "play" on a video to a live presentation. Offer alternatives when appropriate (such as writing a short essay, leading a class discussion, or emailing you a slideshow), giving students detailed guidelines so their submission meets your learning objectives.
Multimedia projects	If you identify a preferred format for such projects (such as a YouTube video), allow students to identify alternative formats or software applications that interest them. Steer the student toward other institutional resources (such as media labs or library workshops) or online tutorials that can help them succeed.

TABLE 2.3 *Ensuring Multiple Means of Engagement*

Syllabus construction	Leave a small but significant part of the schedule on your syllabus empty on the first day of class and ask students what they would like to do, or what course materials they would like to engage with, on those days. Move beyond the usual short disability statement and explain in detail what kinds of support are available.
Activity design	Your class activities should provide multiple roles so students can choose the means of engagement they are most comfortable with: reading, writing, drawing, making, searching, leading, discussing. During the beginning of your semester or term, ask students about kinds of activities they would like to engage in.
Assignment design	Provide opportunities for student choice in the assignments. Allow for student interests in at least the following areas: topic, format, length, or timing of assignments. Provide a detailed, fixed "standard" option for students who work better given more structure and direction. Make explicit the necessary skills for success, such as organization, word processing, web browsing, database navigation, self-assessment.
Course	Assign multiple genres and formats of readings to be completed before class:

readings	nonfiction and fiction; online and print; textual and multimedia; "high-brow" and "popular" texts. Make sure you include authors of many different backgrounds. Be flexible about incorporating last-minute, topical course readings that you or your students find.
Course sessions	Avoid structuring each class session around just one activity. Mix and match lecture, discussion, and activities whenever possible. For long sessions, schedule a break. If you notice that students seem distractive, consider asking them what they would like to talk about or do in the current course session.
Out-of-class engagement	Be flexible in office hours: when they are, where they are. Offering videoconferencing (Skype) or chatting (through CMSs or Google Hangouts) is a good idea. To motivate students to make use of office hours, tell students that you are available to talk about their interests related to the course (not restricting yourself to the precise materials you've assigned).

Providing Accessible Resources

For all its benefits, Universal Design does not inherently address one important barrier to accessibility: resource scarcity. Having difficulty securing the funds, equipment, or space you need is a serious, but not always unconquerable, obstacle to DH pedagogy. Not all higher education instructors have access to the resources of a Carnegie Mellon–designated "research intensive" institution. Additionally, the realities of widespread "adjunctification" (the reliance on part-time or contingent faculty members), along with declining public investment in higher education, mean that even instructors may struggle to maintain the equipment they need for basic research and teaching. Many of our students, too, are individually burdened by family hardships and student loans. Though we do not wish to downplay the gravity of these problems, we also want to provide some basic strategies for overcoming these deficits.

First, consider "platforming down," a practice advocated by Michele Friedner, Rebecca Sanchez, and Mara Mills. They observe that students and teachers dealing with accessibility issues in the long term already privilege minimalist, text-based technologies. Letting students do much of their business through email accounts, listservs, and other stylistically simplified forms—while allowing students latitude for the writing styles or dialects they use—allows for exciting exchanges that can occur more quickly and frequently than modes that require physical presence, complex formatting, or massively sized files. Second, when you can't choose a minimalist technology, choose assignments and platforms that will likely help students in other courses or in their lives beyond the classroom. These digital learning experiences will then be beneficial for them, rather than a drag on their (or your own) energy or other personal resources.

Third, make sure that you help provide access to the technologies you require and adjust for students with special needs. With a little creativity and a lot of flexibility, you can do this by using the resources and equipment that you already have available. As we explained in Chapter 1, this is one of the areas where open-access educational resources really shine: if your student has access to a digital device of any kind, the likelihood is that he or she can access high-quality materials that will be directly relevant to your course. What most DH activities have in common is a device capable of connecting to the internet, meaning that a well-equipped computer laboratory classroom is great if you have it, but that a single instructor's computer station, supplemented by a few students' smartphones or laptops, is enough for most activities in this book.

Paying Attention to Multiple Intelligences

Many different models of "learning styles" have proliferated since the 1970s, when social psychologist David Kolb popularized the idea that maximizing student learning means appreciating that not all brains work in the same way.

For Kolb, some students learn best through hands-on experiences, while others excel at formal experimentation, others at discussion, and still others at abstract reflection. Other models of learning styles might categorize students by how they are motivated to study and persevere through difficult courses, by how they retain information, or how they create the ideal study environment. The most widely circulated "learning style" schema is the VARK model, which divides students into visual learners, auditory learners, physical learners, and social learners (see Fleming and Mills). The concept of learning styles is commonly accepted by the public at large, and all of these proposed models for learning styles can give you tools for reflecting on how students learn and helping them become aware of their own practices. But it's important to point out that none of these models can be validated scientifically and that, at best, the categories they identify likely describe students' *preferences* rather than what actually results in better test scores or higher-order reflections on course content (see Willingham et al.; Khazan).

The biggest drawback of learning styles schemas is that they assume that each learner fits into a single category. Howard Gardner's multiple intelligences framework, by contrast, theorizes that every learner is capable of at least eight intelligences: visual-spatial, bodily-kinesthetic, musical, linguistic-verbal, logical-mathematical, interpersonal, intrapersonal, and naturalistic. Cultivating all of these intelligences creates more of the neural links that promote creativity and reflection. Certainly, many students come to privilege one certain modality over the others, but this does not mean that they have no access to the other modalities. We prefer this approach over "learning styles" because it encourages us to develop many types of intelligence in all of our students, rather than allow them to remain in their comfort zone. In a way, the DH as a field is by itself a cross-fertilizing of multiple intelligences; methods and insights associated with musical, interpersonal, intrapersonal, visual-spatial, and linguistic-verbal modes are crossed with methods and tools that are more associated with logical-mathematical intelligence.

There are a few basic ways to encourage students to access the multiple intelligences through practices that are common in DH already:

1. Allow students to tailor certain parts of your course (they take their preferred approach to small-group discussion, for instance, or to submit an alternative final project) according to the intelligence modality they most enjoy activating.
2. Create group activities and assignments that require drawing from as many of these modalities as possible, telling students that they should not only make contributions suited to their own personal modality preferences but also explain to the other students in detail how they did it and, furthermore, to advance their other modalities by learning from their fellow group members.
3. Encourage them to explore other modalities by deliberately diversifying your course texts and other materials, your lectures, your discussions, and your course activities. Just as teachers often divide class sessions into time slots devoted to lecture, large-group discussion, small-group discussion, audio/video screenings, freewriting, and the like, different periods of time in your courses could be dedicated to different intelligence modalities.

In Table 2.4, we share ideas for crafting individual activities and assignments that develop these multiple intelligences, as well as less formal ways to incorporate these diverse modalities of learning. Strive for a balance among these elements, using digital tools to explore your course content through modalities that might not be commonly exercised by your field's go-to methods. (You might also consult Table 12.5, which explains how to incorporate both social and independent learning by balancing synchronous and asynchronous elements in your online course design.)

TABLE 2.4 *Ideas for Enhancing Coursework Based on Multiple Intelligences*

Intelligence Modality	Ideal Activities and Assignments	General Strategies

Intelligence Modality	Ideal Activities and Assignments	General Strategies
Visual-spatial	Assign a digital mapping project; take students to a visualization studio, or 3D printer on campus; have students annotate images, especially by adding alt-text for accessibility; incorporate CAD (computer-aided design) or 3D modeling software (if you are a beginner, try Tinkercad or Minecraft); ask students to design websites with an eye to creating and transmitting a logical, consistent information hierarchy	Insert plenty of images in course materials; project images and video clips during class; ask students to reflect on the arrangement of their classrooms and/or study spaces; analyze image repositories (like Flickr or Google Image Search) or visually oriented websites (like Pinterest); introduce students to the basics of UI/UX design (user interface/user experience design) and make sure that your course materials follow the tenets of UI/UX design as well
Bodily-kinesthetic	Arrange for students to make objects, especially through physical computing, such as by interacting with circuits through wearable e-textile technologies (LilyPads), paper circuits, or single-board microcontrollers (Raspberry Pis); arrange visits to the campus theatre, gym, or sports field/stadium to discuss the role of technology there (even better, ask a related faculty member, coach, or staff member to participate as well)	Bring in objects (anything three-dimensional that can be handled) or 3D models of artifacts related to your class; acknowledge the materiality of the internet and computation; bring in computer components or devices that are safe to disassemble so students can “see” what’s inside phones and laptops; encourage students to demonstrate or talk about how they use their bodies to manipulate machines while texting, gaming, and the like.

Intelligence Modality	Ideal Activities and Assignments	General Strategies
Musical	Compose music or soundscapes with Audacity, GarageBand, or a virtual MIDI controller; experiment with glitching sound files; encode music with MEI-XML (Musical Encoding Initiative); use music visualization tools like Renderforest (for web browsers), VSDC (for PCs), or ProjectM (for mobile options); visit the music department to tour their recording and mixing facilities	Remark upon the ambient sounds of the classroom (especially those made by phones, computers, speakers, etc.); discuss study habits related to the auditory environment; listen to music in class as a soundtrack or as a short break from screen time; reflect on the history of sound technologies (e.g., the first "talkies" or electronic keyboards, of different audio formats, such as MP3 and WAV)
Linguistic-verbal	Ask students to manipulate some text-based object in your class and digitize it or encode it (i.e., teach a digital edition assignment); feature digital storytelling (through Twine and Tracery) or natural language processing; ask students to "translate" snippets of code into colloquial language	Discuss the dominance of the Roman alphabet in the software world, especially by sharing the history of Unicode; solicit storytelling as a mode of argumentation; analyze the technological history of textuality, from etchings, scrolls, and presses to typewriters, word processors, and plain-text editors

Intelligence Modality	Ideal Activities and Assignments	General Strategies
Logical-mathematical	Have students work with databases or spreadsheets; assign technical writing or process writing (genres that formally describe and document logical processes); ask students to analyze a technology critically by recovering its history or hypothesizing its future effects; have students design, collect, and analyze data related to technology use by their fellow students and/or family members	Teach students how to edit documents and spreadsheets efficiently using regular expressions; discuss the importance of algorithms for contemporary life; view course materials as word clouds through Voyant Tools or as network visualizations through TextTexture, Onodo, or Gephi; examine snippets of code to investigate the patterns of abstract symbols used by different computer languages
Interpersonal	Make any activity or assignment collaborative; have students construct a digital exhibition about an element of national, local, or family history; ask students to reach out to an artist or public figure whose work is principally known through digital or online means and ask them about the role technology plays in their work	Spend time reflecting critically on social media platforms, messaging tools, and dating apps, asking how technological mediation shapes relationships; use Think-Pair-Share discussions to host debates about technological controversies related to your field; use student presentations to allow your students to teach new concepts to one another

Intelligence Modality	Ideal Activities and Assignments	General Strategies
Intrapersonal	Have students write about their relationships with digital technologies; they should reflect on how they identify with their devices, how their use of digital technologies is unique or typical of certain populations, and how their practices influence their mental health, physical health, schoolwork, and relationships for good or ill	Schedule breaks in the middle of class sessions for students to turn off their devices and reflect silently; devote time during class to individual freewriting, brainstorming, or concept mapping; ask students to share their favorite apps and devices; discuss how technologies influence our sense of self, our ability to be alone, and our strategies for self-care
Naturalistic	Have students use their smartphones to document nonhuman features in the world around them, manipulate the images through filters, zooming, and so on, and analyze how image manipulation can bring them closer or further from natural organisms or objects; ask students to write about the predominance of cats and dogs in internet visual culture; create projects that ask students to classify digital phenomena in a similar way that animals are taxonomized	Challenge stark binary oppositions between the natural and the technological; ask students to reflect how technological mediation influences their experiences of the nonhuman world; familiarize students with e-waste and related concepts (such as media archaeology and the Anthropocene); view or screen electronic art related to the natural world by artists like Andrea IV, Uji, Forces, and Darren Cunningham in new genres like EDM and eco grime

Adapting Policies for Individual Cases

Even if you have worked to incorporate many UDL principles from the design stages of your course, it is a good practice to tell students at the beginning of each class that you are open to suggestions about how you can make course content and assignments more usable. In addition to asking students to come to office hours to discuss any accommodations they will need, we like to collect a student information form on the first day of class—students fill out information about hobbies, academic interests, and expectations for the course—and the last question on this form is always, "Do you foresee any obstacles or challenges that will impede your ability to access the course texts, participate in activities, and complete assignments? And if so, is there any strategy or adjustment that I can make to help you?" These questions, being open ended, allow students to exercise their own preferences regarding what to share, what terms to use, and what adjustments to request. One of the simplest and yet most effective ways to implement and select inclusive practices for your course is to ensure that you are openly talking to your students in order to understand what they need from you. Coupling individual conversations and open dialogue with some of the Universal Design principles we have outlined here ensures that you are attending to both specific and general student needs and also, while you're at it, enhancing your teaching for all students.

One further suggestion that recognizes your role as a responsible citizen concerned for your students' physical safety during class time is to take a basic first aid or CPR course (either in person or online) and to have emergency and campus services phone numbers readily available. This is not so much a technology suggestion, but it is something that many instructors tend to overlook and is not generally required by universities, despite its usefulness (and despite the fact that many similar jobs do require such training). Hopefully you will never need to use first aid skills or call the fire department, but recognizing that these sorts of unforeseen problems can occur in any situation allows you to be prepared to deal with emergencies that might arise.

Finally, keep in mind that many students suffer from chronic illnesses that unavoidably hamper the student's productivity in both predictable and

unpredictable ways. As Aime Hamraei (2020) has pointed out, many disabilities have a similar effect on student planning and scheduling. As a result, Hamraei suggests being more flexible about how students can demonstrate participation in class discussions: perhaps you can arrange them to be asynchronous, to be flexible in terms of the due date, or to be substituted with notes or discussion questions. Consider how changing policies like this can transform the ways your class passively reflects or actively rethinks "the design of everyday academic life" (Hamraei 2016, 261), thereby removing unnecessary obstacles to your students' intellectual growth.

Privacy, Safety, and Account Management

Because of the interactive, communal nature of DH, students can become exposed to discomforts or dangers they might not face in a different humanities class. From posting work on the internet to gathering data for a project, students of DH tend to circulate beyond the classroom, and they (and their work) are often in public view. Considering online anonymity, safety, and equal opportunity will ensure that you meet your course objectives while minimizing risk for your students. Allow students alternative assignments if they are exposed to online harassment, and if an extreme case arises, be ready with information about coping mechanisms and possible legal recourse. In turn, your students should strive to avoid using prejudicial or harassing language. Consult the organization FemTechNet's Center for Solutions to Online Violence for further advice about preventing and responding to harassment online.

Beyond these commonsense measures, you'll want to know about any relevant policies, laws, and rules that are applicable at the national and institutional levels. Learn about any resources your institution may have, as well as your own institutional responsibilities as a teacher to minimize risk. Consider adding a statement about equal opportunity, safe spaces, inclusion,

or (in the United States) Title IX compliance to your syllabus. In the United States, FERPA (the Family Educational Rights and Privacy Act), which governs access to educational records, restricts the kinds of information that you can disclose about students. For DH, this law usually becomes important if your students contribute to a public blog or post academic work on an institutional repository. Kevin Smith, the director of Copyright and Scholarly Communication at Duke University, recommends concrete strategies for ensuring student privacy in his post "Where Does FERPA Fit?" Smith writes,

> First, students should know about the requirement in advance; they should be informed by the syllabus while they still have an option not to take the class. Second, provision should be made for students to participate pseudonymously, a step that would clearly resolve any FERPA problem that might exist. And, finally, I suggested that provision be made … for an alternative assignment that could be available to the student who really needs to take the course but, for whatever reason, does not want to do his or her work in public. Of course, instructors are entitled to assess the validity of those reasons, consider the pedagogical benefit from public work, and evaluate any proffered reasons why a pseudonym would not be a sufficient solution. (par. 7)

This is helpful advice even if you aren't in the United States and even if you do not have students post to public blogs. Even if you are simply asking students to contribute to a class Twitter stream, you should follow the recommendations above to ensure your students' privacy. If you are working elsewhere, there may be additional, nation-specific privacy considerations for you, especially when it comes to DH. We encourage you to look into the privacy regulations at your specific institution as well as the legal regulations in your area.

In a Canadian context, for example, there are two important points to add. One is that the vast majority of Canadian institutions are publicly funded and are therefore subject to the federal Privacy Act. There are additional privacy stipulations that vary by province. A second consideration that will almost certainly apply if you are thinking about incorporating more digital tools into your teaching is that privacy law in Canada prohibits the storage of personal data on US servers. This includes digital storage solutions like Dropbox and

Google Drive, which many of us use on a regular basis. There are, alternatively, now an increasing number of Canadian cloud server options available.

In terms of physical safety, use common sense when asking students to enter computer labs, or embark on field trips or data collection expeditions. Visit these sites beforehand, or call a representative and ask a few clear questions about accessibility, to identify any physical dangers or other barriers to access. Consider worst-case scenarios that might result in injury or harassment, and devise strategies to minimize the chances of these scenarios occurring. Think carefully before asking individual students to visit spaces outside the classroom; having a partner or working in a group is far better. Maker labs also require special consideration. They are often built on a shoestring budget, pushed into a space that was not designed for machinery, and subject to continual reorganization and rearrangement, so visit it in advance to ensure that all your students can safely enter the space. Remind students that they should take the same kinds of safety precautions they would in a science laboratory. If students cannot show up to a certain space or have privacy- or safety-related reasons not to go, offer them an alternative activity that fulfills the learning objectives of the assignment, or consider redesigning the activity so that all students can safely participate.

Reviewing the kinds of demands you make on your students in terms of safety should include considerations for equal opportunity. Female students, LGBTQ* students, and students of color encounter dangers that other students may not, and it is our responsibility to think through the possible dangers to which our course requirements and activities may expose them. After all, markers of identity, such as gender, sexuality, class, and race, do not disappear once we begin communicating through screens. As Kim Knight explains, for example, “digital media are one way in which racial meaning is constructed” as well as “challenged” (2014, 413). Although we often like to think that digital technologies are on the whole a positive force—indeed, optimism about their utility underpins this book—they will only be so if we consider equal opportunity when we design syllabi, activities, and assignments and when we hold class sessions. And whether your particular

students' challenges may involve physical or psychological disabilities or identity categories that render them vulnerable in certain situations, remember that virtual spaces are just as important as material spaces. Encourage students to sign up for programs in ways that protect their privacy, such as by adopting a pseudonym, employing a single-use email account not directly or permanently related to their institutional accounts or personal devices, and declining to share personal details (e.g., filling out a profile or uploading a photograph of themselves). Designing activities and assignments that are rigorously about course content, rather than exploring tech for its own sake, will minimize the situations in which students might feel pressured to share personal information online. Evaluate what is truly necessary for the class, and do not expect or ask for students to share more about themselves than is required.

Beyond considering general principles of inclusiveness that would benefit students of any institution, respond to the particular needs of your institution's student population. Every institution serves a slightly different set of students, meaning that you might have to be creative to make these DH projects accessible to students who might not have reliable access to the internet outside of their institutions, students who may not have the disposable income to support expensive smartphones, students who may be juggling full-time jobs and family responsibilities or coming from cultures with attitudes toward technology that do not align with the privileged communities that are so often the implicit audience of DH pedagogy. We therefore recommend limiting the number of different programs they must use, pieces of equipment they must access, or number of online accounts they have to sign up for. Reusing a single piece of software—and a free one, at that—throughout the semester will help, so select a program that you can creatively apply to different projects. Better yet, select your DH projects, as well as the equipment you use, based on their future potential uses for your students in their other courses, their personal lives, and their careers. That way, you need not ask students to overcome hardships for a single assignment; instead, you will be underlining the broader benefits of acquiring new digital skills.

Assigning group work in which only one member needs equipment or software can lessen the burden on individual students, while focusing on in-browser applications means that smartphones or personal laptops are not necessary. In some cases, you might have to rely primarily on in-class work rather than assume that students can easily complete technology-heavy work outside of class. Even if you teach at a relatively privileged institution or do not know for sure that particular students enrolled in your courses have difficulty accessing digital technologies, you might want to consider these strategies. After all, they encourage your students to collaborate and show them ways to take advantage of technology even if they do not always have the most expensive equipment or fastest internet connection. Moreover, they will provide you with an ideal pretext for learning more about what your institution has to offer and even an opportunity to expand the resources that your institution can offer.

Conclusion

In higher education, much of the discourse around accessibility issues can seem forced, artificial, and bureaucratic. The tangle of pressures exerted by legal requirements, local needs, and institutional budgets often results in confusing, inadequate, or seemingly arbitrary sets of recommendations. But at its core, the phrase "ensuring accessibility" simply means that you strive to meet the needs of all your students. To do so, start thinking—at the very beginning of your course planning—in terms of multimodal learning, ensuring multiple means of representation, engagement, and expression, and protecting the safety and privacy of all your students. You can do this by using the strategies summarized here and by consulting the Further Reading list below. At the foundation of this practical advice, however, is the fundamental attitude and belief that all of your students, regardless of their needs and circumstances, deserve to have the best possible experience that your course can offer them.

As Smith concludes in the blog post about FERPA, scrupulously protecting student privacy should not "make the Internet a 'no go zone' for student work"; instead, it means that we should "think carefully and respectfully about that work, and the students who create it" (par. 8). If we decide not to incorporate public work simply to avoid having to take extra care in protecting students' privacy, as Jeffrey McClurken reflects, we risk wasting our students' chances to share their insights: "What a waste not to share student work and voices where possible and safe. What a waste not to make the case for the value of higher education in general, and of the humanities in particular, at a time when they are under attack" (par. 3). Above all, with foresight, preparation, and a willingness to make on-the-spot adjustments, we can expand the kinds of work our students do, the methods they use, and the connections they make with the world beyond the university campus, without inadvertently shutting some of those students out.

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3

Designing Your Syllabus

This chapter demonstrates the wide variety of options for incorporating digital humanities (DH) into your syllabus. Much of what we discuss here applies not just to courses with content relating to DH but to any courses that might benefit from digital components or assignments. We begin with a nuts-and-bolts discussion of the process of making your syllabi and other materials available online, summarizing platforms you might use and discussing why you might want to do so. We continue by discussing the possible advantages and disadvantages of teaching a class on DH as its own field. Then, we address the mechanics and practical considerations involved in creating syllabi with digital components, sorting these suggestions among three possible levels of engagement with digital practices—a "light," "medium," and "heavy" use of DH—so that you can find relevant suggestions no matter what amount of experimentation you want to commit to. Finally, we consider the practical implications of incorporating DH methods, theories, and assignments into your own syllabi, covering such issues as course objectives, late-work policies, and accessibility statements.

Course Websites

Whether or not your course includes any DH elements, course websites, which are handy for a variety of reasons, can be enriched by using methods adopted by many DH practitioners. You can, of course, provide course materials digitally through your institution's Learning Management System (LMS, such as Blackboard or Canvas), which is helpful because your students' data will be secure. However, in our experience, students tend to find additional digital spaces (like course websites, Padlet boards, or wikis) to be useful and engaging supplements to the LMSs. The combination of the two allows you to keep confidential information like grades safely locked down while also giving a "public face" to your course. Simple websites with thoughtfully designed user interfaces tend to make it much easier for students to find everything they need, since they are likely already proficient navigators of basic websites created in WordPress or similar platforms. At the other end of the spectrum, if you have much more sophisticated technological needs, you may wish to use something like GitHub to share code.

Sharing your course resources and materials can be helpful as part of your teaching portfolio, and students often appreciate the chance to share their own work with their friends and families through online "galleries" of student work. (Of course, if you do proceed with this kind of sharing, you will need to make sure to abide by the permissions and privacy guidelines we outline in

Chapter 2, as well as the licensing and copyright guidelines in

Chapter 1.) Similarly, other instructors can learn from and engage with your course materials through a public site in a way that they wouldn't be able to with an internal, password-protected LMS, thereby allowing you to build a pedagogical community beyond your institution.

If you shudder at the thought of contemplating learning a new system, and you desire to bask in your probably hard-won mastery of one of those not-always-intuitive LMSs, keep in mind that many people also find the learning curves for LMSs to be steeper than out-of-the-box website platforms. If you want to make your LMS work well (which is to say, beyond the basic functions of grade uploading and enrollment details), you will likely have to put in quite a bit more time than you would in order to do the same things with, for example, a very simple WordPress or Squarespace page (see

Chapter 11 for more nuanced suggestions about augmenting and optimizing your LMS). In Table 3.1, examine some of the options available to you should you wish to create your own course website. You'll see that they vary considerably in functionality, cost, and ease of use, so you may find that what works perfectly for one course may be less helpful for another.

TABLE 3.1 *Platforms for Course Websites*

Platform	What It's Good for	Difficulty Level	Cost
WordPress	Simple course websites including syllabi, image and media galleries, text, social media integration, and links. Quite powerful as a content management system if you get into customization.	Beginner/Intermediate: This is very easy to use in its most basic form, but also has options for customization (especially in the desktop version) that are more advanced, should you choose to use them.	Free (including hosting) if you are comfortable with a wordpress.org web address. If you want your own domain you'll have to pay for the domain itself (see *Note on Domains and Hosting, below).
Wix	Simple course websites including media, text, social media integration, and links. An alternative to WordPress.	Beginner: Wix has a drag-and-drop interface for design, which is extremely simple.	Free, but with a "Wix" ad banner. To remove the ads, you'll need to connect the site to a domain and pay $5.95 per month.

Platform	What It's Good for	Difficulty Level	Cost
Squarespace	Simple course website including media, text, social media integration, and links. A WordPress alternative. The main advantage of Squarespace is that is has very nice-looking themes, so it's a step up from WordPress & Wix.	Beginner	Ranges from $60–144 per year.
University Web Space	A range of possibilities from simple course websites to custom code.	Intermediate; likely you will need a little bit of discussion with your IT department or library to set this up.	Probably no cost to you: most institutions reserve some personal webspace for every faculty member. If you are a temporary faculty member or post doc you may not have access to this resource.
Weebly	Simple course websites with media, text, social media integration, and links. An WordPress alternative.	Beginner	Free if you have "weebly" in the web address; plans starting from $8.00 per month for your own domain.

Platform	What It's Good for	Difficulty Level	Cost
Wiki	Best for collaborating with your students and colleagues: they can contribute to and edit the wiki themselves. Not as much of a good option for a highly designed course website that you control.	Beginner	Free
Jekyll plus GitHub	Best for hosting and making available computer code. Probably overkill for most courses, but necessary for those that include extensive or collaborative coding.	Advanced	Free for the basic plan. Enhanced options are available starting at $7.00 per month, though these plans are free for students.
Custom site	Entirely flexible. A custom site can by definition be whatever you would like it to be!	Advanced	Highly variable. To pay someone else to make one would be very expensive, but to do it yourself is free, you'd just need to provide a domain.
Drupal	A more sophisticated content management system. Can be usefully customized, especially if you want to integrate student research into your site and include rigorous metadata.	Intermediate/Advanced	Free, but hosting is required.

A Note on Domains and Web Hosting

Many of the services listed in Table 3.1 are free if you consent to putting "WordPress" or "weebly" (e.g.) within your web address (so it would look something like this: https://religion101.WordPress.com). For the purposes of most courses, there's really no problem with a WordPress address, and keeping things free is of course an advantage! However, if you would like to, you can quite easily point any of the services above to your own domain (which you can purchase through many different service providers, such as Reclaim Hosting). Your other option is to use your university servers and host the site through your institution—even if you've created it in something like WordPress. In those cases, it is probably best to speak to your information technology (IT) department about the logistics of your specific institutional web spaces and to keep in mind that you may lose access to these spaces if you change institutions.

Online Syllabi

One of the key items that you would likely include in a course website is, of course, your syllabus. The most obvious and intuitive reason to do this is so that your students have access to the syllabus at all times on their own computers, tablets, or phones. Some instructors also favor a "visual" or "liquid" syllabus that can offer accessibility benefits and conceptual enhancements to a traditional syllabus format (Pacansky-Brock). In our experience this helps to slow the flood of questions from students about assignments, late policies, and other matters that are already clearly documented on the syllabus. However, when posting your syllabus online, there are additional considerations concerning the open culture and open-access principles we discussed in

Chapter 1. We've included many examples in the Web Companion of syllabi you can already access online to help you in designing DH courses, and these kinds of resources have proven especially valuable for technology-oriented fields that are nascent or rapidly changing. An ethos of reciprocal sharing of resources—in which you not only learn from remixing, borrowing, and reusing ideas from other instructors but also share your own course materials in return—is, in our opinion, the ideal scenario.

However, as with any open sharing of material, it's a good idea to take a few precautions when it comes to intellectual property. Two main points are worth remembering here. First, if you use assignments, ideas, or aspects of a syllabus you find online, it is worth openly acknowledging that use so that, as Konrad Lawson suggests in his post "Citing Syllabi," credit is given where it's due. The second consideration is to ensure that your own syllabus is used as you would like it to be by others. We recommend posting your syllabus along with a Creative Commons license to retain copyright over your materials while also sharing them with your students and other instructors. (For more on Creative Commons licensing, see

Chapter 1.)

Should You Teach an Introduction to DH Course?

Whereas course websites and shared syllabi can be helpful in any course, regardless of your desire to use DH content or other DH methods, you'll want to think, too, about how your syllabus might change when you're tasked with teaching an actual DH or tech-oriented course. When you are considering DH-tinged courses to teach, most likely, the first option you will explore is an introduction to DH. This type of course typically begins with histories and definitions of DH and then proceeds by surveying existing DH projects. Such a course then narrows down the field to a few approaches, pairing them with particular platforms or tools that the students will learn in-depth to produce graded work that is done either independently or (more likely) in a group setting. Excitingly, these courses can cover a lot of ground, from website creation to coding, from digital editions and textual encoding to mapping, and from social media and New Media studies to crowdsourcing and data mining. At the end of the course, the instructor might discuss the politics or limitations of DH, discussing groups such as #TransformDH and FemTechNet, as well as issues of social justice in relation to digital media. In terms of course management, the instructor typically sets up a course website or blog to disseminate information and facilitate collaborating and sharing student work. Students are generally expected to share some of their work publicly on this website or blog (or perhaps by contributing to an existing online source, such as Wikipedia).

These courses are ideal if your institution has a major, minor, certificate, track, or graduate program in DH or in related fields, such as New Media studies, geographical information systems, or information sciences. Given enough interested students, this kind of course is ideal for a one-off, special topics class or senior seminar. However, do not restrict your imagination exclusively to the kind of course that tries to survey *all* of the methods,

concepts, and projects that digital humanists have collectively created. In most cases, you will probably have more short-term success if you integrate DH methods into existing core courses and articulate DH methods in user-friendly terms.

There are advantages to incorporating DH in an existing course over creating a course that is specifically about DH. In a widely shared post, revised from an earlier talk, "How Not to Teach Digital Humanities," Ryan Cordell begins by suggesting that

> undergraduate students do not care about digital humanities. I want to suggest further that their disinterest is right and even salutary, because what I really mean is that undergrads do not care about DH *qua* DH. (par. 5)

As Cordell implies here, DH *as such* is largely a specialist concern (although it has increased in visibility and prominence since we wrote the first edition of this book). Setting aside the question of student interest, Cordell points out that in these general DH courses, "our concern with defining and propagating the field writ large can interfere with innovative but necessarily local thinking about digital skills, curriculum, and research at both the undergraduate and graduate level" (par. 12). We emphatically agree and believe, as a result, it is vital to foreground your disciplinary questions and methods as you design a DH-informed syllabus. Doing so will both help you attract students and further your own disciplinary research. Such "local thinking" allows DH practices to update classes already in your course catalog. Core curriculum courses, courses for majors or minors, and one-off, special topics courses all present ideal opportunities for incorporating DH into your syllabi.

An Alternative Approach: Choosing Your Amount of DH

Putting aside the possibility of teaching an introduction to DH course opens up a whole range of possibilities for adding DH themes and assignments to your existing courses. Slowly adding more DH components over time will not only help you comfortably build up your experience in DH pedagogy but also help you cultivate a group of students who are interested in DH. Moreover, all courses do not benefit from DH approaches in precisely the same way. Some courses may only need a single DH assignment to feel fresh and new, whereas others may benefit from a single, semester-long DH activity. Still others can support multiple activities and assignments without losing sight of the course's disciplinary content.

To account for this fact, we suggest a three-tier approach to writing a syllabus that contains DH components. This three-tier system requires you to decide if you will make a light, medium, or heavy use of DH in each class, and then using this designation as a touchstone for making crucial decisions about selecting appropriate activities and assignments, crafting course policies, and designing a scheme for evaluating student work. Table 3.2 describes how to make these decisions.

TABLE 3.2 *Characteristics of Courses by Amount of DH*

	Light Use of DH	**Medium Use of DH**	**Heavy Use of DH**
Course Readings	These kinds of courses may have no DH reading at all! If they do, a brief article or blog post related to a specific assignment will likely suffice.	Maybe have only a few DH readings, typically restricted to ones linked explicitly to DH-related assignments or activities.	Consult the list of syllabi we've included in the Web Companion to this chapter for many, many examples of full-scale DH course reading lists for inspiration.

	Light Use of DH	Medium Use of DH	Heavy Use of DH
Activities	Use only intuitive, simple tools that require little or no special equipment.	Some advance planning and extra materials may be required, but the activity might not span more than one day.	Students will be required to learn new skills that may seem challenging at first. Activities will span across multiple course sessions.
Assignments	Focus on tools and platforms familiar to the student already and should complement the types of work you already assign.	Focus on digital tools that are more advanced but still tightly tied to the norms of your discipline.	Experiment with less intuitive platforms but offset this extra student work by making the assignment worth a large percentage of their grade.

	Light Use of DH	Medium Use of DH	Heavy Use of DH
Evaluation	A rubric for the individual assignment that requires DH-specific skills (see	Some combination of assignment-oriented rubrics and overall policies around technical evaluation vs. content-based evaluation will be helpful for these middle-ground courses. Often in these courses students will require the most reassurance and the most clarity around evaluation.	For this kind of course, much of

	Light Use of DH	Medium Use of DH	Heavy Use of DH
	Chapter 7 for detailed suggestions on assignment rubrics).		Chapter 7 will apply. You will want to consider general rubrics for evaluating work as well as specific, assignment-based rubrics. You will also want to decide how much you are evaluating technical work.
Late Work Policies	Likely can remain as they normally would be for your courses.	May require some flexibility due to the unforeseen delays that can occur with technical projects.	One option for late policies for digital work is to accept extension requests based on legitimate technical difficulty up to 24 hours before the deadline. This will save you from last-minute requests, but will allow some flexibility for truly unavoidable issues.
"Help Desk" Policies	May not be needed, or in-class troubleshooting might suffice.	Think about whether you would like to set up specific office hours for technical troubleshooting, whether you would like to address these kinds of questions by email, or	For a DH-heavy course, you may wish to think about which "Help Desk" services you are able to provide and which ones

	Light Use of DH	Medium Use of DH	Heavy Use of DH
		whether you would like to devote classroom time to technical questions. Any of these options can work, but it is wise to set aside some specific time to answer student questions on tech.	should be provided by IT services, the library, or others. See

	Light Use of DH	Medium Use of DH	Heavy Use of DH
			Chapter 9 for advice about leveraging these kinds of support.

	Light Use of DH	Medium Use of DH	Heavy Use of DH
Prior Knowledge of Technology	A targeted survey of specific abilities relating to the chosen assignment would be ideal here.	A broader survey at the start of the class (passed out along with the syllabus) is recommended here (see	As with medium DH, you'll likely want to pass around a survey at the start of your course to ascertain existing technical abilities.

	Light Use of DH	Medium Use of DH	Heavy Use of DH
		Chapter 7 for further advice about the survey).	
Accessibility Issues	A statement that you understand and are happy to work with issues that arise from DH projects should be sufficient. However, you should tailor this statement to your specific choices regarding platform, space, and device.	A statement like that mention to the left should be sufficient for the syllabus, but add more information in particular activity prompts and assignment sheets.	Carefully craft a statement about the possible problems with inclusion given your projects, and specify your accommodations as precisely as possible.

Anatomy of a Syllabus I: Course Information and Learning Objectives

Adding DH elements to your course will require you to make some changes in the way you write your syllabus. For example, when you share course meeting details—where and when you meet—make it clear if you meet in different spaces on particular days (e.g., you might hold a few meetings in a computer lab or visit an archive for one course session). In your contact information, to avoid spending too much time as your students' personal IT help desk, set "email hours," which are like office hours in that they disclose when you are available for remote consultation. Such an "email hours"

section should clearly express when you will and will *not* be regularly checking email, and how you define "regularly" (for some, this might be once an hour, but for others, it may be only at the beginning and end of the workday). Make it clear that if students contact you outside of these email hours and, as a result, fail to turn in an assignment on time or complete an activity successfully, the student is fully responsible. In this section, you might also indicate that students should not contact you until they have checked the syllabus, done an online search, and asked fellow students for help.

After these meeting and contact details, your course description should acquaint your students with the amount and type of digital skills they will either need or will develop during the course itself to succeed. Reassure them that they need no prior experience beyond general computer skills or, conversely, make any prerequisites perfectly clear, just as you would with any formal course prerequisites defined by your department. Your textbooks/readings list will likely contain a lot of hyperlinks, so make sure that the way you disseminate the syllabus makes these links easy to "click" on or use a link shortener service (such as Bit.ly) so that the links can be easily manually copied by the student from the syllabus. This is why it's good to have some online version of the syllabus (as discussed in the previous section) and to double-check any PDFs or other digital syllabi files to confirm that links are clickable. If your course requires buying software, an app, a device, or "maker" materials, make this clear in your textbook/readings list, as this is where students expect to find the total cost of course materials. If possible, take the time to express to students why this unusual-seeming cost is crucial for their success in the course and what you have done to minimize this cost. Where appropriate, ask your IT staff, librarians, or department head if there are any sources of funding or equipment in case the cost represents a hardship for some students.

Explicit learning objectives are, we believe, crucial for ensuring student buy-in for the DH components of your course. Learning new technologies for a humanities class may strike some students as bizarre, so integrating digital skills into a list of course objectives will show them how they are related to

their development of disciplinary knowledge and will contribute to their final grades. For a quick, easily adapted, and comprehensive vocabulary for learning objectives, we like the useful set given by Anne Burdick and her colleagues in their cowritten book *Digital_Humanities*. They break down the expected outcomes of DH courses and assignments into six categories: the development of "critical savvy for assessing sources and data," the "ability to integrate digitally driven research goals, methods, and media with discipline-specific inquiry," the "ability to understand, analyze, and use data," the "ability to use design critically," the "ability to assess information and information technologies critically," and the "ability to work collaboratively" (Burdick et al. 134). In an introduction to DH course or a DH-heavy course, these six criteria are broad enough to comprise your course's entire set of learning outcomes (as long as they are adapted to your institutional or departmental norms, of course), but in other courses, these criteria will be more appropriate as learning objectives for individual assignments or activities.

If none of these options works for you, you could identify "digital literacy" as one of your course's primary learning outcomes. There are many approaches to digital literacy, but the ALA has defined digital literacy as "the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills" (Visser, par. 2). This definition encompasses not only raw technological skills (being able to use a technology and extract information from it) but also conceptual skills (being able to reflect on, evaluate, and communicate about that technology).

A final way to convey your course objectives is to set aside blocks of time at the beginning of the semester to discuss your rationale for incorporating DH strategies. Make it quite clear why you think these new approaches are appropriate for this particular course and for these particular students attending this particular institution. Share the new insights that DH methods have yielded for your field, emphasize how the insights and methods of the humanities are sorely needed for anyone who wants to understand

technology and digital culture, and explain how the strategies you've incorporated from

Chapter 2 are meant to maximize everyone's potential for success and participation in the class. Reflecting on your methods and assumptions at the beginning of the class will increase student buy-in. Not only will students become excited about their upcoming labors and more informed about the mutual interdependence of digital methods and the humanities, but you will also create an ideal opportunity to forestall any misunderstandings or resistances that might influence student retention as the course proceeds. Yes, you might have to take out a course text, cancel a quiz, or compress a lecture, but you will be rewarded with rich discussions about disciplinary methodologies, about approaches to learning, and about the advantages and opportunities that your course has to offer. Finally, as we observe in

Chapter 11, some instructors suggest the use of a "syllabus quiz" to assess student understanding of the course policies, objectives, and practical details.

Anatomy of a Syllabus II: Course Policies

Your attendance and participation policies should reflect the peculiar constraints and requirements of DH activities. For example, you might specify precisely when devices such as smartphones and laptops should and should not be used. Do they put them away when you are not doing a DH activity, or do you expect them to be following a course Twitter feed or consulting online readings almost continuously? Many instructors have strong feelings on this subject, so we merely suggest that you tailor your policy to your particular student body and to your teaching style. No matter what, every instructor will want to stress the necessity of attendance on group-work days or workshop days devoted to creating DH projects. Also, explain that the standards for acceptable, active participation may rise dramatically during course sessions when students engage with DH tools; simply showing up on time and listening will not be enough.

Perhaps the most difficult adjustments you will make to syllabi when you add DH components will occur in the sections on due dates and late work. Because you will be asking students to perform unusual tasks and learn new technologies, we recommend relaxing, or at least rethinking, your normal policies. Students will inevitably experience both avoidable and unavoidable obstacles in completing and submitting DH-inflected work, so dedicate some space in your syllabus to distinguishing between avoidable problems and unavoidable problems. For example, if you are teaching online, the students' ability to use your institution's LMS should be taken as a given, and as a result, difficulty with the LMS is an avoidable problem rather than an unavoidable one. (Unless, of course, the LMS itself has crashed!) After you have defined what situations count as avoidable and unavoidable,

clearly explain the consequences attendant on each case. You will also likely wish to take a look at

Chapter 2 when you craft your own customized accessibility statement and outline the steps you are taking to ensure an inclusive environment.

Unless you are taking a "light" approach to incorporating DH in your class, the alternative—adjusting your policies on an ad hoc, student-by-student basis—will take up a lot of your time and may unintentionally create inconsistencies in your grading policies. To avoid this situation, set up a procedure that students must follow to inform you of any problems they incur (including standards for advance notice and preferred communication channels), and express firm, clear boundaries regarding your willingness to act as tech support. We discuss this issue of instructor tech support further in the "Anatomy of a rubric" section of

Chapter 7. For now, expect that you will have to provide *some* tech support for your students (or at least be ready to refer them to the right URL, tutorial, or on-campus resources). C and S do not mind providing a certain amount of tech support. As Jeremy Boggs observes,

> Explaining the technical aspects of blogging, wikis, RSS feeds, YouTube, and Flickr can take up time spent on other things in class and out, but I think it's very important to take on this role. … While this can be an enormous amount of work …, serving as tech support has, I think, given my students more confidence in my ability to teach with and use technology. (82)

Still, be assured that there are simple ways to minimize the time you spend giving tech support and that this tech support mostly covers the specific new tools and methods you are sharing with your students—not general computer skills, for which you are not responsible. To avoid having to provide the latter sort of tech support, emphasize that students are responsible for saving and backing up their work regularly, and remind them of campus-wide resources that they can use if a personal device breaks or if they need some remedial mentoring to brush up on their basic computer skills. Many colleges and universities subscribe to tutorial services in the same way that they subscribe to databases, so see if your institution provides access to these programs. (S's university, for example, provides Lynda educational subscriptions for students and faculty.) Other institutions may fund free tutoring services that are related to computer or engineering courses and work in a similar way to campus writing centers. Finally, as we discuss further in

Chapters 4 and

6, on designing activities and assignments, you can minimize tech failures before they happen by sharing links to tutorials, web forums, and FAQs.

If you remain skeptical about relaxing your typical course policies when students have unavoidable technological difficulties, there are certain cases for which we think it justifiable to stay firm on strict policies regarding late work. Stay firm, for example, if your learning objectives for the course or the particular assignment in question explicitly invoke troubleshooting, mastering a certain platform, or collective problem solving (in the case of group work, in which case the group should have foreseen or corrected the issue). If points are awarded specifically for technological mastery—in effect, for *not* having these problems—you already have provided a way to deal with this issue within the existing parameters of the assignment. A final approach involves separating technical skills that are a nonnegotiable foundation for successful participation from those that derive from your choice to teach this class as a DH-inspired course, in which case we recommend that you offer any reasonable accommodation that does not compromise the basic purpose of the assignment. S has occasionally allowed a student to fulfill the learning objectives of the assignment by other means (through other technologies or sometimes through a nondigital solution that still satisfies the discipline-specific intellectual demands of the assignment), while C has found herself more open to adapting late policies to suit specific assignments.

Contextualizing Your Course Design

Even a perfectly designed syllabus might make a student skeptical or even resistant if you do not explain your rationale for adopting digital assignments and activities. Your students may be too polite or reserved to communicate clearly their doubts, concerns, and fears to you when you first introduce the question of DH-enabled work in your classroom, but you can anticipate their negative reactions if you explain clearly to students why you have chosen to

incorporate digital elements. Doing so will help you counter the following common student reactions against DH:

"*I wanted a humanities class. What does this have to do with what I signed up for?*" Although the majority of our students now have always lived in a world with laptops, the internet, and smartphones, many are still uncomfortable with any kind of coding and with more complicated technical projects. Indeed, some will have chosen classes in humanities departments in order to avoid the technical requirements of the sciences. To counter this resistance, the best defense is, first, to have set your students up for success by thoroughly preparing them for their tasks and, second, to have designed your course in such a way that the technology clearly relates to and enhances the humanistic materials. If you can show your students real humanities research and real primary materials hosted on websites and digital archives, for example, you will be able to also show them that a lot of research and cultural heritage work is taking place online using digital methods.

"*I'm not a computer science major. I'll never use this*." From understanding content management systems like Drupal and WordPress to knowing how to interact with databases and produce spreadsheets, basic digital literacy is required now in nearly every profession. Though the tech sector itself is one possible area of employment after graduation (even for humanities majors), areas such as the Galleries, Libraries, Archives, and Museums (GLAM) sector, nonprofits, government agencies, and retail companies all require facility and comfort with digital systems. Whatever their professional aspirations after graduation, students will benefit from learning as much as they can about working together with others on technology-oriented projects. After all, even artisanal broom makers and freelance nonfiction writers keep and often manage their own websites, Twitter feeds, Facebook accounts, and financial programs. At the beginning of the semester, tell students that they will be able to add new digital skills to their resumes in a few months' time.

"*I hate group work*." Because of the unusual nature or unusual breadth of the skills needed for many DH-inflected tools, you may find yourself assigning group work more frequently than usual. There are two possible

ways to counter group-work resistance from your students. One is simply to uncouple the digital from the collaborative, saying that many complex projects, whether digital or not, require collaboration. Another method is to point the student to the myriad studies demonstrating the effectiveness of group work in promoting student success, achieving positive learning outcomes, and developing greater empathy and social development among participants. If necessary, you can always offer alternatives for individual work; for example, S has assigned students solo research work, which they then hand off to a relevant group, which applies this research to create a digital resource. S has had other, similarly shy students individually create artwork or write copy that is then used as an accompaniment for another group's work, while others have served as eagle-eyed copy editors who improve other students' contributions.

"*I don't think this stuff should count toward my grade*." It is important to acknowledge students' fear of failure because, as teachers, it is easy to forget how anxiety-inducing evaluation can be. Most students care deeply about grades and desire to move as smoothly as possible through your course so they can move into the next stage of their lives. Reassure apprehensive students to know that you will most often not be grading your students on their technical competence in and of itself. Instead, tell students they will not be penalized for not already being computer wizards and that your grading will evaluate their mastery of skills within your humanities field, as well as the students' critical thinking around their projects, their presentation skills, their participation in in-class assignments and workshops, their resilience when encountering technological difficulties, and their ability to link course content to technological issues.

Conclusion

In this chapter on syllabus design, we've asked you to conduct a thought experiment wherein you select your use of DH on a sliding scale, and we've

shared simple tips for minimizing the number of times that students ask you for help by an email that arrives way too late. This heterogeneity reflects the multiplicity of tasks that syllabus construction demands of us, even before we consider incorporating new technologies, tools, and approaches. As you attempt to forestall every question and problem by writing the perfect syllabus or constructing the perfect course website, remember that it all comes down to making your expectations clear. So long as each policy, reading, and requirement matches your course objectives, your syllabus will be, by itself, one of the most powerful tools your students will learn how to use.

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4

Designing Classroom Activities

This chapter suggests various approaches to the design of classroom activities. Whereas

Chapter 5 will discuss the practical matters of putting a well-designed plan into action, this chapter covers how to construct such a plan in the first place. We begin by discussing the broad principles that drive digital humanities (DH) activity design. Then, we cover a broad range of particular activities, organizing them from the shortest and simplest of in-class activities through to complex projects that may span a week or may take place periodically over multiple course meetings, even with breaks in-between sessions. We gloss each suggested activity with practical tips about choosing appropriate tools or programs, as well as advice about the strengths and weaknesses characteristic of each one. After presenting activities that are easily accomplished in short periods of time, we share a few advanced activities, which may require multiple course sessions, more planning on your part, or resources that not all teachers may be able to access without some additional financial support, specialized spaces, or in-kind resources.

Activities as Experimentation

Activities that take place in the classroom, especially those conceived as alternatives to or preparations for formally graded assignments, are excellent opportunities for both you and your students to embrace the bravery we've been encouraging throughout this volume and try something new. Though creative experimentation in classroom activities is nothing new for instructors (and indeed ideally should exist foundationally at every level of pedagogy, from preschool to PhD), DH offer new playgrounds for such experiments. A lot of the discourse around rethinking or embracing failure in DH, which we've been referencing throughout this book, could be read as perhaps less about the digital per se and more about creative engagement of any kind. Activities offer perfect opportunities for trying things out together with your students: they allow you to model and practice inventive and speculative work yourself in real time, and they allow your students to

support each other and be supported as they explore creatively with these new digital projects.

Why is creativity particularly relevant in the context of the digital? One reason is that digital tools are constantly updated, upgraded, or phased out, which means that even the most well-prepared users must show adaptability and flexibility. And even if particular resources or software applications stay relatively stable, many require users to have developed a wide range of dynamic responses simply to navigate them in the first place. As cultures of information shift and become Google-centric (a shift that has its problems but is nevertheless occurring), it becomes even more crucial that students become adept at digital exploration. As Michael Wesch explains,

> As we increasingly move toward an environment of instant and infinite information, it becomes less important for students to know, memorize, or recall information, and more important for them to be able to find, sort, analyze, discuss, critique, and create information. They need to move from being simply knowledgeable to being knowledge-*able*. … Wikis, blogs, tagging, social networking, and other developments … are especially promising in this regard because they are inspired by a spirit of interactivity, participation, and collaboration. (69–70; emphasis original)

You might not agree with the sentiment that knowledge itself is less important in an information-rich culture. The point stands, though, that with increased and increasingly easily available answers to point-of-information questions and giant repositories on the internet, critical thinking takes on a heightened importance. Though the interactive nature of Web 2.0 culture might not necessarily diminish the need for knowledge, the processes of interacting with information are certainly complicated by new media and digital forms.

Exploratory activities, then, are often more about what skills and thoughts are generated than about what fact or content knowledge is learned. Excitingly, they require collaborative thinking and innovative methods, which allow you to push beyond the bounds of your own discipline and find multiple forms of activities that you can try out—in intentionally low-stakes ways—in order to introduce new perspectives. For example, even if humanists often assign text-based work and engage with text-based resources

as the basis for research, there's no need to be limited to activities that focus on texts and textual materials. Spaces, audio, video, visualizations, animations, objects can offer ways of looking at primary texts that might yield exciting results (and can also help you adhere to the accessibility principles we outline in

Chapter 2). For more examples of this principle, we recommend reading Eileen Gardiner and Ronald Musto's "The Elements of Digital Humanities: Object, Artifact, Image, Sound, Space," listed in the Further Reading section. In the next section, to show a range of approaches that might facilitate exploratory practice in the classroom, we emphasize this multimodal principle by including a mixture of different forms, including images, maps, sounds, graphs, and texts. Many of these formats may seem to be appropriate for some fields and less so for others—but don't let these assumptions limit your explorations in activity design. We would even suggest that the more unlikely and new the format seems to you, the more likely it will yield unforeseen, valuable results that will make the best use of your students' (and your own) knowledge and creativity.

Activity Design: Balancing Integration and Flexibility

We have designed this chapter to stress a few particular activities, thereby encouraging cohesion, simplicity, and progression as you choose the DH projects that work for your particular class. Within each type of activity, we have selected a particular platform rather than a general approach (Twitter rather than social media, Voyant rather than text visualization, e.g.) in order to provide a quick, easy model that consists of a few popular platforms that are intuitive and ubiquitous. Rather than ask students to adapt to brand-new platforms every week or to complete ten different types of assignments over the course of a semester, you'll be looking to find your ideal balance of integration and flexibility to keep your students' curiosity alive without burdening yourself with too many different types of DH techniques in every single class you teach. This is also a way of balancing familiar approaches with new ones, which is likely going to be important so that neither you nor your students feel too out of your depths.

Your choices in DH activities and assignments should cohere in some way, but we do not want to lock you into our suggested activities and platforms. You can adapt any particular DH approach (text analysis, visualization, mapping, encoding, coding, making, annotation) to any platform you prefer, but whenever possible, minimize the number of times your students must master completely different software or equipment. Introducing students to particular platforms in an activity, then later asking them to complete graded assignments using the same ones (as explained earlier) allows students to practice and consolidate individual skill sets. This will not only enhance student confidence but also give you a greater chance of moving to the reflective process: What does this tool do well? What does it not do? Why do we use it? What history or politics are involved in using this particular platform? Has your discipline somehow influenced the creation of this platform, or can it help to explain how and why this technology emerged? And how might your field be changed for the better (or worse!) by using it?

Ten-Minute Exercises

Word Clouds

Activity description: This simple exercise involves copying a selection of text and pasting it into a word cloud generator, which will produce a pictorial representation of word frequency in a given passage by selecting and counting the most frequently used words and rendering them into a two-dimensional shape in which more frequent words appear in large letters, with progressively less frequently used words appearing in proportionally small letters. This is one of the quickest activities you can do to offer an immediate, visual glimpse of the keywords present in a text of any kind. For an in-class activity, you could do this by having students paste in a text of their choosing in order to generate their own word cloud. Alternatively, you

could generate a word cloud yourself in front of the class while the students watch (or just before class starts), and the activity can be a discussion about the findings suggested by the word cloud. It can also be helpful to use word clouds as summary tools at the end of a course. S finds that this is a fun final day activity. You might also put in the text of some of your students' assignments and generate a word cloud that shows, at a glance, their preoccupations.

What to tell your students: This activity will help students identify important themes in the text and to pinpoint interesting patterns in the text's diction. Moreover, word clouds are one of the most familiar kinds of visualizations we encounter, so it is important that we know how they are made.

Tips and tricks: This activity is one of the fastest possible (10 minutes really allows for 8 minutes of discussion and about 2 minutes of actual word cloud generation!), and it's suitable for beginners. Wordle is our recommendation here, but you can also generate word clouds within most word processors, spreadsheet programs, and slideshow programs. Advanced students might prefer using the command line to create word clouds with just a few lines of Python code.

Word Frequency over Time

Activity description: Word frequency over time analysis (commonly encountered in the form of Google's N-grams) originates in computational linguistics, where they refer to a contiguous sequence of syllables, letters, or words in a given text or speech. In the context of DH, the most frequent use of an N-gram is to see how frequently a word was used at a given historical moment by analyzing word usage in a large corpus of text, as opposed to a single text, as word clouds often do. For example, you might be interested in seeing how historical events you've been discussing in class, like, say, the Industrial Revolution, might coincide (or not!) with concepts or affects like boredom or leisure. You can also use an N-gram graph to compare the use of two or more words over time (does "boredom" take over from "idleness" at

a certain moment?). Again, you can run the activity in one of two ways: either by having your students choose words of their own (perhaps generated from the word cloud exercise or from a particular word or phrase that has prompted much class discussion) and generate their own N-grams, or you can lead a collaborative discussion with the whole class about a single N-gram.

What to tell your students: This activity will help students identify historical trends by charting a term or concept's popularity over time. It will also remind them that, even within a single language, the meaning of particular words changes over time.

Tips and tricks: This is a very quick activity since results are one click —which also means that it's suitable for beginners. We recommend Google's N-gram Viewer as the easiest and most recognizable word frequency over time viewer.

Digital Forms, Polls, and Quizzes

Activity description: You are no doubt already familiar with scheduling apps, online quizzes, and polling tools such as Survey Monkey, Doodle, and even BuzzFeed. Many of these tools may seem mundane or frivolous, but they are useful far beyond scheduling student conferences or learning which cruciferous vegetable matches your current mood. Use polls at the beginning of the semester or the beginning of each unit to assess students' current knowledge of your topic, their attitude toward it, and their learning goals. At the end of a unit of the course, use them to gauge what they have learned and generate student feedback that may be more useful than your institution's standardized forms. In S's Virginia Woolf class, she conducted an extensive survey about how students reacted to Woolf's novels and how they constructed individual techniques to navigate these difficult texts; the results helped her reframe her syllabus for the next year. By sharing the (anonymous) results with students, the activity sparked a vigorous class discussion about important, high-level disciplinary concepts related to approaches to criticism and theory. This activity then morphed into a graded assignment when one group of students used the survey data to create a slideshow presentation

designed to help the instructor analyze the results, while another student created a beautiful infographic directed at students and new readers of Woolf.

What to tell your students: This activity will help you, the instructor, tailor the course to their interests and respond to student feedback. The students will also learn whether or not their personal learning objectives are common or unique, encouraging them to think consciously about their education.

Tips and tricks: In the online synchronous teaching model, Zoom polls can be highly useful for in-the-moment opinion polls or pop quizzes. We also like Google Forms because it automatically outputs the results into a spreadsheet, allowing you to save the data, reorganize it, and even create charts and figures. However, if students are making the quiz or poll, we recommend choosing a more vibrant platform, such as BuzzFeed.

Half-Hour Exercises

Collective Image Annotation

Activity description: For a half-hour activity, separate students into groups and ask each student to annotate (to add notes to) a digital image. Make sure that each group has access to a smartphone, laptop, or computer terminal; alternately, assign the actual image annotation process as an outside-of-class activity that takes place in a library computer lab, then use your instructor computer during class to display each of the images, while group members explain what they have done. Each group will select a digital image that is relevant for course content and then add information to it—such as labels that identify people or places in the image, links to relevant research or to other digital images, or an interpretation of or argument about the image—that shows their mastery of course concepts or their ability to perform spur-of-the-moment research on your current topics of study. After giving the groups

15 to 20 minutes to annotate their images, ask students to circulate around the room to view the other students' annotated images.

What to tell your students: This activity will dramatize how diverse reactions to the same cultural object can be and how complicated a single image can be. In addition, image annotation is important for universal design because it allows alt-text to be added (see

Chapter 2) and for marketing because it is used for search engine optimization (SEO).

Tips and tricks: We recommend Flickr because it supports integrated annotation. Furthermore, it allows you to search for images that are in the public domain, ensuring that your students can safely reproduce and embed their resulting annotated images. Other platforms with richer annotation options, but with a steeper learning curve, include ThingLink and Gigapixel.

In-Depth Most-Frequent-Word Analysis

Activity description: You can explore the uses of most-frequent-word (MFW) analysis beyond simple word clouds. Whereas a word cloud exercise asks students to interpret the word cloud itself, this activity digs into the data that produces the word cloud and allows students to visualize this data in more ways than just a world cloud. With intuitive platforms like Voyant, which we recommend as a powerful but relatively simple MFW visualizer (voyant-tools.org), students can create types of visualization other than word clouds and can easily discover the larger contexts of frequently used words. Clicking on a word of interest, for example, allows you to trace the frequency of the word over the whole text, compare the frequency of this term with other terms that you have chosen, and read the sentences in which the word appears. Because users often skip quickly from word to word and visualization to visualization, and from platform to the source text and back again, tracking down hypotheses, this is a highly idiosyncratic process. Allow students to navigate these MFW visualizers individually, if at all possible. If students quickly reach interesting conclusions using one text, experiment with your "corpus" (the text you tell the platform to analyze) by performing MFW analysis on more than one text.

What to tell your students: This activity will allow students to test and refine their hypotheses about a given text. If you encourage students to apply the knowledge they've learned in the class to interpret what they see in the MFW visualizer, they will also learn about the limitations of simpler word clouds.

Tips and tricks: See the Voyant activity set in the Web Companion for detailed instructions. This activity is also an excellent primer to prepare students for the Voyant Style Lab sample assignment in the Web Companion. If neither of these options appeals to you, consider this exercise as a way for students to begin brainstorming a written assignment or studying for an essay exam.

Variant Analysis

Activity description: One of the tasks that computers excel at far better than humans is collation: the act of comparing one version of a text to another. This comparison, when automated computationally, can lead to exciting discoveries about textual variants of all kinds. This activity is best conducted by students as individuals or in pairs or small groups. Each student or group should have access to two different digital versions of a text. You could use a first edition and compare it with a later edition or a manuscript version of a poem; or you could use the same approach with syndicated newspaper columns or court documents. Simply direct students to paste each version of the text into the platform recommended below, and the variants will be highlighted for them to see easily. After that, ask students follow-up questions about the significance of the variants they find (and perhaps invite speculation about the reasons for those variants, such as authorial intention or censorship).

What to tell your students: This activity will show students how the material processes of textual production influence what they read. They should also develop a more critical eye for analyzing their sources.

Tips and tricks: Students may be most comfortable using the Compare Documents functions in Microsoft Word or GoogleDocs. Most DH scholars, however, recommend Juxta as a platform for variant analysis. It's very simple, works with PDFs, and requires no previous tech knowledge. Additionally, if you visit juxtasoftware.org, you will see a series of helpful blog posts that reflect on the technology and also present scholarly arguments that were made based on results generated through Juxta.

Digital Archive or Edition Assessment

Activity description: This activity helps students learn how to use the digital archives and repositories thoughtfully and critically. For the in-class activity, C has found it most successful to ask students to visit digital editions or archives (like any of those listed in Chapter 1) on their own and simply be open to anything they find. Then, solicit and collect short critical or reflection papers based on these explorations. Ask students to consider the changing forms and norms of textual production and idea dissemination: How does a scroll differ from an e-book? Do historically significant texts seem the "same" when you see a first edition versus a contemporary copy? If you have more time, you can ask students to reflect critically on the digital archive or edition: What are its strengths and weaknesses? Is it scholarly or not, and how can you tell? What were its funding and labor models (and are these visible)? How would students want to change it if they were making it themselves? Beginning with this kind of activity can inform students' later use of digital archives in their own work.

What to tell your students: This activity will enhance the student's digital literacy by asking them to reflect on their reading habits. Furthermore, they should become more aware that the medium through which they encounter information frames their experience of it.

Tips and tricks: Scour the Web Companion's list of archives, located in the material related to Chapter 1. Long-term projects might be spurred by asking students to find digital surrogates or archives that have been created from materials housed at your own institution or at a local museum or off-campus library.

Whole-Class Exercises

Digital Events

Activity description: Your class can participate in important public events related to online culture and digital knowledge. For example, consider having your students join a Wikipedia Edit-a-thon or Ida Lovelace Day, which can help your students dabble in digital public history and community outreach. As Adrianne Wadewitz, Anne Ellen Geller, and Jon Beasley-Murray argue in their piece for *Hacking the Academy*,

> Students who analyze Wikipedia articles and participate in their development are made aware of the construction of knowledge and the ends towards which it is put. Most students utilize Wikipedia only to find information, and therefore have little understanding of how the articles are developed, who develops them, or the oftentimes extensive discussion and review that goes into making an article. (85)

Because Wikipedia requires writers to cite their sources, the authors argue, students learn about the rigor of reliable research and become more savvy, critical readers of Wikipedia articles. To ensure that students internalize these lessons, ask them to complete short reflection papers (no more than a single substantial paragraph) that summarize their contributions, as well as their motivation for making these changes and anything they learned about Wikipedia that they had not known before.

What to tell your students: This activity will show the students how what they learn in the classroom is important to the wider public. They will also practice editing their work for a public audience.

Tips and tricks: Check out our links in the Web Companion for some further information and tips regarding Wikipedia Edit-a-thons and other public events you could bring into your classroom. Keep in mind that the DH community on Twitter is a great source of news about these events.

Character Role-Play or Debate

Activity description: Class debates and role-playing exercises, which can feature fictional, nonfictional, or allegorical characters, are fun ways to incorporate digital platforms in the classroom. We recommend using these

activities for holding a remote class if you must be absent from a day of scheduled class or if you want to hold a fruitful, lively class even though a major test is looming or an assignment has just been turned in—making it an ideal time to give students a short but meaningful break from their accustomed homework. Benefit from the public-facing nature of social media platforms like Twitter and Facebook by asking students to perform a debate that demonstrates and deepens their knowledge of course content. To stage a debate without using social media, ask students to prepare and record skits, making sure to upload them onto YouTube to make them easily shareable. Given the proper framing—for example, you'll want to spend plenty of time explaining the activity in a session *before* you actually hold the activity —"fun" will not mean "shallow" or "easy." Asking students to embody various personae, rather than represent their own perspectives, will provide a helpful intellectual and emotional distance. To ensure that students approach the activity with the alertness and creativity it deserves, clarify the purpose of the activity, as well as the skills and knowledge you expect them to demonstrate. Narrow down these demands so students focus on only a few goals, such as using technical terms accurately, applying disciplinary concepts to a new context, taking account of multiple perspectives, or invoking particular schools of thought or argumentative styles.

What to tell your students: This activity will deepen the students' understanding of fictional or historical characters. It will also help them recognize and impartially reflect upon the personae they project into the world through their own social media usage.

Tips and tricks: Facebook is a popular platform for creating fictional digital characters, but its real-name policy has recently begun to pose challenges to those seeking to create fictional accounts or, more seriously, those who wish to safeguard their privacy. Though it's not impossible to sidestep this policy—it merely takes creativity in naming your new Facebook accounts—we prefer Twitter for this activity because of these concerns. See the Twitter activity set in the Web Companion for detailed instructions.

Field Trips to a Library, Archive, or Laboratory

Activity description: Some of the most exciting encounters for students can be with original historical documents or materials related to their studies. Similarly, a contemporary art museum, a local exhibit, or a tech laboratory or company in your area can provide a real-life counterpart to classroom experiences. If you do not think your course content connects directly with the exhibitions or collections that you have access to, don't give up! Think creatively: Does this collection relate to the method of your discipline (if not the content of your course)? Are there parts of permanent collections (as opposed to temporary exhibitions) that would be relevant for your course, or will a visit to this space contribute to the broader goals of your curriculum? For more local suggestions, ask around your department for their interactions/field trips, and build on their experience first before asking the archivist or librarian to design something new for you. We also recommend setting this kind of activity up well in advance to ensure that you have all the arrangements confirmed with the participating archive and that you can accommodate students with disabilities. Depending on your course topic, one of your students might be able (and willing) to share family-owned materials that, if brought to your classroom, could certainly serve as an archive.

What to tell your students: This activity will introduce them to exciting learning resources that are available to them. It will also demonstrate how many ways that a university contributes to the world's knowledge beyond the awarding of degrees.

Tips and tricks: There can be a lot of variety in these kinds of field trips, so your activity will likely be governed by the resources available to you. Consider using this activity, where possible, in conjunction with the Digital Editions assignment and even the ScannerPro tutorial if you have historically significant archival materials that are available in your local special collections or archives and that are ready for digitization.

Weeklong Exercises

Collaborative Video Annotation

Activity description: Multimodal, visual, or audio exercises are often fun and productive to organize as somewhat "long-term" group activities because they allow you to step aside (as an ultimate authority) comfortably, and you can concretely observe the students' learning process as they create some kind of multimodal output. Whereas the image annotation activity restricted itself to one "frame" of information, video annotation will likely take a longer time to yield significant results. Like image annotation platforms, video annotation software allows students to respond to film clips in a similar way that they might write marginalia in a course text. For in-class video annotation, decide whether the clip your students annotate has been previously created by a third party or will be created by you or your class for this express purpose. After an explanation of the assignment and a tutorial concerning the software you choose for annotation, the students will select their film clip, brainstorm annotations, assign particular research duties to each group member, and then add the annotations to the clip. This activity will end with an exciting, in-class "show and tell" that includes a question-and-answer session.

What to tell your students: This activity will refine their collaboration skills and allow them to explore the moving image as a medium that transmits information. They will also learn a new way to contribute actively to the digital cultural sphere rather than passively consume it.

Trips and tricks: See the VideoAnt activity set in the Web Companion for an example of how to conduct this kind of activity during a week of course sessions. Throughout this process, your role will be primarily as a research and technical advisor, so this is a good choice for weeks when you are unusually busy with other service, teaching, or research commitments and would find it difficult to spend your usual number of hours in course preparation duties.

Maps and Timelines

Activity description: The most familiar visualization techniques include maps, timelines, and infographics. Maps can help students to plot fictional landscapes in the real world, to overlay historical maps on contemporary ones, or to trace social phenomena across a geographical landscape. Timelines can be useful at-a-glance summaries of historical information, and infographics can elucidate complex narratives and problems into simplified visuals. For an in-class activity, you will likely wish to give the students a sample set of materials to help them learn the platform before asking them to complete a graded assignment. They may also want to experiment with materials of their own choosing. You can provide a set of geographical coordinates for a map, a series of dates for a timeline, or a set narrative for infographic creation. Some sample data packages for mapping are linked on the Web Companion. Timelines and maps can also be great study aids for students preparing for tests, and they make fantastic images for enriching your syllabus or course website.

What to tell your students: This activity will enhance their knowledge of course content by asking them to translate readings, lectures, and discussions into a different medium. If you choose a program that publishes the final map or timeline as an open-access resource, students will also have the chance of sharing their work with the public and helping future students.

Tips and tricks: For maps, try Google Earth or Storymap. (More intense programs, like MapBox or Neatline for Omeka, are better for longer assignments; see

Chapter 6.) For timelines, TimeGlider is a good option; for Infographic creation, try Venngage (free) or Piktochart (paid subscription).

Digital Text Capture

Activity description: Digital text capture refers to creating plaintext files from books or other physical texts that you have access to. It is the bedrock of many digital scholarly activities, particularly those related to creating databases, archives, or digital editions. Moreover, transforming inked letters into digital text enhances accessibility not only by making the text available (potentially) to anyone around the world but also by making it legible to text-to-speech programs. As a result, although it may seem less exciting than the process of creating neat-looking network graphs and word clouds, we believe that digital text capture should play a major role in any course that foregrounds DH. Like any service activity, digital text capture is as complex, interesting, and rewarding as it is time-consuming. Give students a peek under the hood of contemporary archives and editions by having them practice digital text capture. This activity is weeklong because in involves four primary phases: training and preparation (such as acquiring software), imaging (taking photographs), optical character recognition (OCR) (deriving plaintext from pictures), and correction (fixing errors). The labor involved in capturing and correcting text will spur questions about textuality in general as well as the practical and political issues that inform the creation of digital assets. We recommend that digital text capture be used as an activity to prepare for the collective creation of a digital edition.

What to tell your students: This activity will empower students by giving them a useful method for translating paper-based phenomena into digital ones. It will also give them a greater appreciation for the vast amount of editing work that goes into the texts they consume.

Tips and tricks: Consider pairing it with our Digital Edition assignment. Keep in mind that this digital capture workflow can be helpful for preparing class notes and doing your research (no more hand-typing long quotes), for sharing rare books or articles with colleagues, and for archival work.

Textual Encoding

Activity description: Whether textual encoding is done through simple markup practices (such as Markdown) or more complicated ones (such as TEI encoding), textual encoding asks students to consider the structural characteristics of a text and then to represent those structural characteristics in a machine-readable form. Most commonly, textual encoding is used as an indispensable stage in editing a scholarly digital edition, but we also believe that it is an interesting exercise even if your final aim is not to publish an edition. By tagging portions of text with the proper tag and identifier, students learn the anatomy of the text and make decisions about authorship, semantics, the definition of textuality in the abstract, and the important components of a particular given text. For a weeklong activity, ask students first to complete a tutorial on the markup language of your choice and then assemble students into pairs. If you do not have a preference for your platform, adapt some of the materials from the Digital Edition assignment in the Web Companion; for example, use the included tutorial but only ask each pair to encode a short portion of the text. Make sure to circulate around the room and answer questions. If you want to extend this activity, after this week of practice encoding is done, assign the full Digital Edition assignment from the Web Companion. In case you have chosen texts that are not available online (or texts whose online surrogates are inaccurate or have become inaccessible), pair this activity with the Digital Text Capture activity.

What to tell your students: This activity will introduce students to writing in code by allowing them to experiment with the markup languages that serve as the backbone of any website. It will also demonstrate why it is so important to know the provenance of one's research materials.

Tips and tricks: Complicated textual encoding uses specialized XML software for the TEI markup language, but for beginners, we like Dillinger, which is an in-browser Markdown editor, which means that it requires no downloaded software but only internet access. Its two screens allow the user to see the code itself, next to the results (how that code will render visually onto a webpage).

Advanced Activities

Digital Media Art

Activity description: "Digital media art" often refers to a department or degree program that teaches graphic design, animation, and other digital processes used within the visual arts. In this book, "digital media art" means anything students can make through widely accessible digital tools in order to reflect on digital cultures or to transform class content or hypotheses about this content into a digital format beyond blocks of text or tables of data. Students can create digital artworks to recreate the experience of living in ancient Rome, produce study aids in advance of a test on existentialism, or articulate their emotional reactions to course content. The simplest activity would be to create image macros (memes). While students likely already know their preferred tool for meme-making, know that MemeGenerator and Imgur are two of the simplest tools that provide a number of already-popular image macros. If students want a greater range of options—for example, to choose their own background image—try Filmora or Canva. If students are using their smartphones, suggest the app Mematic. Beyond creating visual digital content, students might also produce soundscapes: virtual landscapes created by combining and mixing "channels" featuring different sound effects. Your students likely already use soundscapes hosted on their music apps or YouTube to help them study; let them create their own through Ambient Mixer (an in-browser tool also available as an iOS app) or myNoise (available as an in-browser tool or an app for iOS and Android phones). S's students have created soundscapes of Victorian London for her Sherlock Holmes class. Another born-digital art medium is glitch art—a medium that appreciates the surreal beauty of "accidental" glitches by placing them into an aesthetic context or by deliberately creating effects that appear to be accidents caused by equipment malfunctions, distortions, and format misalignments. For an example of the latter, search YouTube for Zach Whalen's tutorial on creating glitch art in the classroom with Audacity.

What to tell your students: This activity will show that computers and the internet are not merely passive tools for transmitting art that is already made elsewhere. They actively change the artifacts that are loaded onto them, they allow audiences to interact with art in new ways, and they allow artists to create completely new techniques for creating artworks.

Tips and tricks: Prepare your students for creating digital art by searching and viewing examples and artist statements during a class session. For instance, have your class "listen" to Wikipedia through a service that converts edits to the wiki to music in real time (listen.hatnote.com/) and students to share their favorite ambient mixes for studying. Browse the glitch art of Rosa Menkman (https://beyondresolution.info/), as well as her "Glitch Studies Manifesto" (linked in the Further Reading section), and ask students to search GoogleBooks for "glitches" created by ScanOps (the group of operators whose scans of books are at the backbone of GoogleBooks).

Physical Computing and Critical Making

Activity description: Much of DH focuses on the creation of new software or applying software to create digital research outputs, such as statistics, visualizations, or digital surrogates of texts, or 3D models of rare artifacts. By contrast, physical computing focuses on hands-on engagement with hardware—the computer's plastic, silicon, metal, and electrical guts. A related term, "Critical Making" was coined by Matt Ratto in 2008 and refers to activities that bridge linguistic or theoretical abstraction and embodied or physical making. At its most complex, an instructor using physical computing would create a Makerspace—a room of your own with lots of equipment, such as 3D printers and scanners, laser cutters, projectors, soldering irons, and mini computers, as well as the kinds of tables and chairs needed for a workshop environment. But you don't need a whole room if you experiment with single-board microcontrollers, like Arduino, to introduce students to the basic elements of circuitry and binary computation. They do not require a lot of power or space but can be easily interfaced with sensors or other hardware. Arduinos can be programmed by students to do a wide variety of

things, such as flicker lights on and off, generate automatic text, or power linear actuators (tiny motors) for moving objects. While Arduinos can only run one program, minicomputers can run multiple programs. The most popular minicomputer for DH pedagogy is arguably the Raspberry Pi, an affordable, credit-card-sized computer created by a UK-based charity to support student education in programming. The charity now sells a wide range of equipment, from a $4 microcontroller board to a $100 kit that includes a keyboard, multiple USB and HDMI ports, and can run a monitor. While Raspberry Pis are powerful and can be used to teach students about how computers work on an electrical level, accessories can help you expand their range (including cameras, fans, headphone amplifiers, VGA adapters, and gaming controllers). Free tutorials abound online that will allow your students to write music, create poetry bots, run a blog, manipulate images into glitch art (click on "Blog" at raspberrypi.org). In the past, S has had good luck with paper circuitry and 3D printing pens. With paper circuits, your students can experiment with designing and completing circuits with only a piece of paper, a watch battery, a conductive medium (such as copper tape or metallic silver ink), a binder clip, and some powered device (typically an LED light or small actuator) that powers on when the circuit is closed. Students draw on paper with magnetic ink pens or place tape down to trace circuits; when they fold the paper to connect the battery to the conductive material, the circuit is closed. The patterns they make can apply to course content, if you like. S's bibliography students create a small book by folding and sewing a paper copy of the syllabus, then annotate it with ChibiLights (LED lights mounted on stickers) to indicate which course readings and assignments they are most excited about.

What to tell your students: Although we tend to think the internet is invisible and to disregard whatever is inside our phones, digital technologies do exist in the material, physical world. Rocks and atoms are at the foundation of computation, and playing with circuits—practicing the "on/off" action of binary code—will make this truth clearer to them.

Tips and tricks: Don't be afraid to ask your department for a small grant to purchase some physical computing supplies. Small grants for enriching

classes or developing curricula are often available, so keep a close eye on your email for opportunities. SparkFun is a popular company for sourcing paper circuit kits, Makey Makeys, LilyPads (sewable circuits), and LED stickers. Also, you can begin a conversation about the environmental costs of ubiquitous computing, which generates so much e-waste and demands the mining of precious metals under unfair working conditions. This latter conversation is at the foundation of the field of media archaeology (see Parikka in the Further Reading section).

Crowdsourced Research

Activity description: In recent years, crowdsourcing projects have arisen particularly to source transcription for large-scale data projects in the humanities. The public have transcribed letters from the First World War, named stars and constellations, encoded the work of utilitarian philosopher Jeremy Bentham, identified particular types of fish, and transcribed records of historical weather. One prominent platform for such work is Zooniverse, based in the UK, which uses gamification to facilitate public participation in large-scale research (which they memorably call "people-powered research"). Students of course can participate in existing projects by contributing to transcription efforts, thereby gaining a better understanding of digital data collection. Current projects involve watching live "bird cams" to document nesting data, transcribing fragments of premodern and medieval Arabic and Hebrew texts found in a Cairo attic, and documenting light curves for the All-Sky Automated Survey for Supernovae. For a more advanced option, students can use Zooniverse's "Build a Project" platform to create their own data transcription gamified interface. Either activity offers the potential to discuss the discourses of professionalism, public research communities, and data validity with your students.

What to tell your students: This kind of project is a great opportunity for talking about the concept of "public humanities" and about the relationship between university research projects and a broader public of those interested in the research happenings of a particular project. If your

students are going to create their own project, it is advisable for them to first try out a number of projects as volunteers in order to understand what makes an effective interface and what kind of project is suitable for research crowdsourcing.

Tips and tricks: The Zooniverse participatory exercise is very simple and could be done by any class in a single class session just by selecting a project and showing it to your students. However, building a project over a full-year course would likely be the most desirable situation in order to allow proper time for development, research, and selection of suitable materials.

Metadata Creation/Modeling

Activity description: One of the easiest ways to teach students about metadata and its importance is to have them create some. C has used Omeka primarily for this purpose, with its integration of Dublin Core and its easy interface. By having each student choose an object (anything can work from a spoon to a rare book) and having students fill in the basic fields of an existing schema, students begin to understand immediately the structural relationship between a given digitized object and its relation to other objects in an exhibition or digital archive. For a more advanced activity still, students can propose or create new data models (with simple conceptual diagrams drawn on ConceptBoard or any of the other digital whiteboards suggested in

Chapter 11, or even on paper) to show the relationships and links between the types of information they want to attach to an object. A typical conceptual schema for a data model will include entity types, attributes, and relationships between entities (in practice these resemble "mind maps" with bubbles of text joined by lines). Although this process of data modeling is common in software engineering, conceptual modeling can be a highly useful practice in any discipline. In data modeling and metadata creation, critical reflection is crucial: Why do you want to know when an object was made? Why might you wish to know its material composition? By asking these "why" questions, students move beyond thinking of metadata as a utilitarian component of, for instance, a library catalogue, and into an understanding of how the delineation of structured relationships can allow for a new understanding of the systems of power, materiality, or sociological context that surround the data itself.

What to tell your students: Metadata is everywhere and students' relationships with their digital lives are constantly structured by it. By pointing out everyday occasions when students might encounter a specific approach to metadata creation, students can understand and appreciate its significance right away.

Tips and tricks: By starting with a preset schema like Dublin Core and then moving to more custom or creative schemas or data models, you can allow students to see why and how standards exist while also encouraging students to think about what kind of information *they* would like to learn about their course materials.

Writing Effective Prompts

Effective writing prompts are clear, exciting, and concise: in most cases, no more than a single-sided page long. Unlike assignment sheets, which should be detailed and thorough, activity prompts should be short. These prompts typically fulfill two roles: they are a jump-off point and a (minimal)

reference resource. Whether you project it on the board, post to your course website or LMS, or distribute as a printed handout, the prompt needs only (1) a simplified set of step-by-step instructions and (2) instructions for finding further help. That is all you really need for a prompt! It does not have to be complicated, and if you are truly using activities as exploration, it's *better* not to be overly fussy and specific. Provide enough information for students to feel confident when approaching the activity, but not so much that they become distracted by details or wrapped up in technical minutiae even before they begin the activity. The focus should be on the new ideas enabled by the new digital skill. Keep in mind that it is far easier to help students troubleshoot individually, or even reconvene the class temporarily to explain an additional point, than it is to rearrange your schedule because class ended just after you finished explaining the activity.

You might also ask students to prepare in advance by watching a tutorial for a particular platform. Whether or not you make a custom tutorial or source one online, decide well in advance of the scheduled activity if students should read one before they arrive in class or if you will devote class time to covering a tutorial and/or giving a short demonstration. Likewise, alert students in good time if they need to prepare some kind of data set (such as a particular text or image they want to work with) or research question. They might also need to bring certain materials to class (e.g., their smartphones).

For more complicated activities—ones that use tools that are very unfamiliar or that require many steps or course sessions—preface the instruction set with an overview (a brief description of the activity) and a short explanation of your rationale for the activity (e.g., an explicit link to course objectives or course content). If writing a rationale section clutters your prompt, verbally share this information at the beginning of the session; the point is that students must know what the payoff should be. After all, your students will be far happier toiling through an unfamiliar instruction set if they know what light they'll be seeing at the end of the tunnel. In this case, you may decide to conclude the prompt with a "reflection" section, which should list a few thoughtful questions that ask them to reflect critically on

what they just accomplished (or have not accomplished, which will often be the case).

Whether it is a straightforward or complex activity, if it leads immediately or eventually to a graded assignment, it's a good idea to indicate —in a very prominent space on the handout—that these skills will be needed later in the semester. If the activity itself is being graded, design a section on the activity prompt (or simply leave a blank space, or indicate that the backside of the paper should be used) for students to record the results of their experiments. Even better, if you maintain a course website, social media group, wiki, or other interactive space that students can contribute to, they could, alternately, post their results there. A custom course hashtag on Twitter works quite well for this. Even if you are not grading the activity, you may find it useful to collect your students' results and reflections to help you tweak your activity design for the next time around and to show future students examples of what they might produce. And it certainly doesn't hurt that this material also provides evidence of your innovative pedagogy! Just make sure that you have students' permission to share their work and that you do not accidentally pass any private information about them to outside parties.

Finally, once you know *what* your prompt needs to say, do not forget design as a crucial ally in your attempt to make your prompt clear and simple. Create a consistent visual hierarchy; in other words, use visual cues to make information easier to find by distinguishing between more important and less important ideas. Employ headings, bullet points, italics, bold, and changes in font sizes or typeface. Intentional injections of white space (empty space, including margins and paragraph breaks) create a sense of ease and simplicity by helping the eye find and focus on individual units of information. If you have many steps, break them down into substeps; having four steps, each comprised of four parts, seems more doable than a daunting list of sixteen steps.

Conclusion

For C and S, the class sessions during which they employ strategies like these to create a fun, challenging activity generally become some of their favorite memories from the course. Unlike assignments, which students mostly work on outside of the classroom, activities allow you to witness your students' learning processes as they teach themselves, support one another, and apply the concepts and skills you have taught them. They do require making some trade-offs, as you will have to truncate a discussion or lecture period to make room for them. Yet these activities will be remembered well by your students, and they encourage peer-to-peer interaction, sharpen communication skills, promote active learning, and provide an opportunity for displaying their disciplinary knowledge and improve their research skills. Well-planned activities are alternatives to lectures and whole-class discussions. They allow students to test their abilities, engage with one another, and experiment with new methods of learning.

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5

Managing Classroom Activities

This chapter offers practical advice for administering the kinds of activities described in the preceding chapter. Once in-class assignments have been well designed, they need to be implemented in the classroom in a manner that is as smooth, practiced, and intentional as possible. Even the slickest or simplest activity will not succeed if you have not planned the practical details of managing technologically sophisticated activities or formulated backup plans in case the activity or the equipment it relies on does not work out. Here, we cover these issues, explaining how to find specific kinds of equipment and how to determine their best uses for digital humanities (DH) purposes. Along the way, we discuss why and how to source free or low-cost materials and explain tactics for minimizing the number of times students come to you for their own troubleshooting needs. Finally, we share a suite of possible solutions to common technological problems that can occur in the classroom, as well as a series of strategies for minimizing the negative consequences of an activity that well and truly implodes.

Working with Existing or Free Resources

Throughout this book, we have been emphasizing the availability and practicality of using open-access, affordable, and widely available digital resources. We reiterate here, then, our first major principle of classroom management: that, where possible, it is wise to design your course using affordable (or even, ideally, free) digital resources and apps from the beginning. If your course texts, for example, can be downloaded from Early English Books Online (EEBO), subscribed to by your institution, or from the HathiTrust, your students are less likely to try to find cheaper editions that will result in a variety of different textual experiences and perhaps to a frustratingly incoherent class discussion.

Similarly, to try out most of the ideas explained in this book, you will be very unlikely to need any specialized equipment for most DH activities beyond what is available in most university classrooms. If you have access to a projector that connects to a laptop or workstation that connects to the internet, you are pretty much good to go for nearly all of the activities and assignments in

Chapters 4 and 6. Still, you might also discover that your students have access to and want to use equipment beyond the standard-issue classroom audiovisual (A/V) setup. In this case, although embracing these more sophisticated pieces of equipment can create a little bit of risk, we would still recommend embracing what your students can offer, as it can add to the classroom experience. If you are unfamiliar with this platform or equipment, simply asking the student to teach others or to manage that particular part of the activity will give that student an opportunity to develop communication skills and show leadership in the classroom.

Using what you already have is a classic approach in DH, although only recently has it been explicitly theorized. Jon Saklofske, Estelle Clements, and Richard Cunningham have taken up this task. They explain that what we don't need is "more technological apparatus than currently can be found in universities," but instead we need new ways to "engage with such tools" and "the willingness to open the classroom to technologies suggested by the student" (322). They continue,

> While some students have access to computers better equipped for film editing, others may possess mobile phone technology with the ability to capture high quality digital video. This alleviates many of the financial obligations universities find prohibitive, while introducing new technological opportunities to both staff and students. In this model, learning is student-centric and individual, allowing students to provide feedback to—and communicate amongst—themselves, using a variety of media and hardware. Just as it might be ideal for universities to provide students with access to new forms of technology and means of communication, students should also be allowed to introduce new tools and technologies to one another. (322)

Allowing students to share or find their own resources will at times require you to adjust your syllabus, activity prompts, or assignment sheets (while still adhering to the parameters we suggest in

Chapter 7 for clear and consistent standards of evaluation). You may find yourself learning a new program that your students have alerted you to. These are very exciting experiences for teachers; S was delighted when a student introduced her to the IdeaMâché extension for the Chrome web browser, which is a platform for creating interactive, multimodal collages.

Admittedly, these experiences with new software, new apps, and new technology can be as exacting as they are exciting because they can end up making demands on your time that you had not planned. Setting boundaries is therefore crucial to ensure that you can adapt to the tools and resources available to your students but stay excited and feel in control of your course —not drained and overwhelmed. We recommend a few concrete guidelines to maintain this control:

1) Maximize the number of students working with the same tool or approach. Assigning group work rather than individual work, or simply having students work in "consulting groups"—working together and sharing contact information to share tips as they produce individual projects—will reduce the number of queries directed at you. As students solve problems among themselves, they will learn important troubleshooting skills. You will, of course, still be available if they cannot resolve the issue among themselves.
2) Tell students beforehand that they need to search for answers on their own before asking you. In the case of group work, representatives from one group can serve as "runners" to provide help temporarily to another group. Program developers, especially for software popular with DH scholars and teachers, are often very good at answering questions, so tell them to look for email addresses or Twitter accounts. Remind them that honing their communication skills by asking strangers politely for help (and by discovering the norms for asking for help in a particular group or work setting) is good practice for the workplace. In this case, of course, you'll want to encourage students to be concise, specific, and respectful when corresponding with information technology (IT) professionals.

3) Once your students have exhausted other resources and do think that it is time to turn to you, determine a time limit for your efforts at troubleshooting, and stick to it. This time limit should not be far over or under the normal amount of time you would take responding to any other student question or problem. Alternatively, set a timeline for troubleshooting by restricting your personal "help desk" to the times when students work on the activity during class. If you choose this option, consider supplementing in-class workshop days with periodic 10-minute Question & Answer sessions at the beginning or end of course sessions to make sure students still have ample chances to reach you.

As you manage your students' questions and roadblocks, remember that you are not an island; you do *not* need to know everything. So long as you have linked to tutorials, rehearsed the process yourself, or have provided clear and detailed instructions, you need not feel guilty or embarrassed about not knowing how to do something. Indeed, DH in general could be accurately described as an interdependent set of communities all asking questions of one another. As is suggested by the title of Stephen Ramsay's oft-cited essay, "The Hermeneutics of Screwing Around," playing, experimenting, and failing are not just important aspects of DH: they are foundational to it. Openness to students' proposed solutions to technical glitches or problems is also significant: Why not use the expertise or problem-solving skills that students might already have in the classroom? Students will feel empowered and respected when they can contribute to this specialist knowledge.

Finally, keep in mind that you can minimize the need to learn new tools if you maximize your usage of the ones you already know. To gesture at the possibilities that lurk in the tools you already know how to use, in Tables 5.1, 5.2, 5.3, and 5.4, we provide a series of suggestions for using familiar software packages to their best advantage.

TABLE 5.1 *Tips and Tricks for Familiar Browsers*

	Convenience	Communication	Accessibility	Integration
Firefox	Customize the tabs page (the options that automatically populate when you open a new tab) to navigate quickly through your bookmarks, browsing history, and so on. Take a quick screenshot by tapping the three dots icon and hitting the scissors icon.	Use Firefox to send large files by email (up to 2.5 GB); encryption is built-in, and you can add a password to restrict access to the files.	Use the WAVE web accessibility checker extension for Firefox to test your materials for accessibility. Or, within Firefox, go to Tools, then Web Developer, and then to Accessibility; finally, click "Check for Issues."	Tap the three dots icon in an address bar to send a link to a linked device (e.g., send back and forth between phone, table, and/or desktop). Browse Firefox Add-ons to link with your course site/Learning Management System (LMS) (e.g., to send links to Google Classroom with one click).
Firefox (mobile)	Search for a term on a webpage by going to Options, then Find in Page. Save pages as PDF by going to Options, then Page, then Save as PDF.	Firefox Send is also available on the browser's mobile platforms for Android and iOS, allowing you to send files stored on your phone.	Test-drive your course materials and website with TalkBack (integrated into Firefox for Android) or VoiceOver (for iOS devices).	Use your Firefox account to sync settings, bookmarks, and so on across devices. Use Notes by Firefox to sync notes between devices with end-to-end encryption.

	Convenience	Communication	Accessibility	Integration
Chrome	Use the search bar's "omnibox" features to make calculations, find answers to simple questions, and restrict a search query to a particular website. If you highlight and right-click on a word, Chrome will open a new window showing Google search results for the term.	Use the Taskade extension for Chrome to share materials with a group, collaborate on materials, or host a group chat. Or use the Realtimeboard app to access three live whiteboards for free.	Use the WAVE web accessibility checker extension for Chrome to test your materials for accessibility. For alternative accessibility extensions for Chrome, try Tenon, Axe, or Google Lighthouse.	Blackboard users can conduct synchronous online classes through the Blackboard Collaborate Ultra Chrome extension. Use the Google Keep Chrome extension to save webpages, notes, or other information from Chrome to your GoogleDrive.
Chrome (mobile)	Access webpages offline or in place with spotty Wi-Fi by selecting the download option available through the three-dots menu. Use "Lite Mode" (located under Settings) to save your data or access pages faster.	Convert handwritten notes to copyable text by using GoogleLens to take a photograph of the note. You will be able to save this text and send it to your desktop.	Explore your course materials and sites with TalkBack for Android and the WCAG Accessibility Checklist for Android to test their accessibility (see www.w3.org).	Sync Chrome on an Android phone and a desktop computer by opening the Settings tab in the Chrome mobile app, then tapping Sync. Turn off "Sync Everything" to choose what is and is not shared (passwords, bookmarks, browser history, etc.).

	Convenience	Communication	Accessibility	Integration
Safari	Search multiple tabs at once by entering Control + F in the Tab Overview button. Use Reader View to simplify a cluttered page and stop video autoplay by clicking the paragraph button, located to the left of the address bar.	Select objects or text on a website, right-click, and select Share to access a number of apps (you can also save it for yourself in the cloud-based Notes app).	Test the accessibility of your course materials and sites with VoiceOver (included in all new Apple devices) and tools available in the WCAG Accessibility Checklist (see www.w3.org).	Use Handoff to continue an action (e.g., viewing a website) on a different device. Both must be connected to the same Apple account. Enable Handoff by going to System Preferences, then General, and then Settings.
Safari (mobile)	View the desktop version of a site by clicking the dual-As button (AA) at the top left and selecting Request Desktop Website. Under Share, click Find on Page to search the website.	Become familiar with options on the Share menu (the box with an upward arrow). For example, share websites as PDFs or archives by pressing Options under Share.	Explore your course materials and sites with VoiceOver for iOS and WCAG Accessibility Checklist for iOS. View them on iOS Color Contrast Checker as well.	Use iCloud to sync your bookmarks across multiple devices (connected to the same iCloud account). Highlight a word and choose "Look Up" to perform research without leaving Safari or your current tab.

TABLE 5.2 *Tips and Tricks for Familiar Citation Managers*

	Convenience	Communication	Accessibility	Integration
Zotero	Sync notes across multiple devices. Your data can live on your local device or in the cloud. Use zbib.org as a quick bibliography compiler in your web browser.	Share entries by selecting and dragging the entry, or press Ctrl+Shift+C (Cmd-Shift-C for Mac), then pasting into the desired window. Create Groups to share libraries with particular classes.	Use the Zutilo plug-in to increase accessibility with keyboard shortcuts. Best to use the Zotero Standalone (download the app rather than use in-browser) and use Firefox for importing metadata from the web.	Zotero Connector plug-ins work with Firefox, Chrome, Safari, and Edge browsers. Plug-ins are available for integrating with Microsoft Office, LibreOffice, and Google Docs.
Mendeley	Like Zotero, you can sync notes across multiple devices and store data on your local device or in the cloud.	You can drag-and-drop citation entries from Mendeley into emails. To create collaborative bibliographies, create groups designated as "Invite only" or "Open."	Not accessible for the vision impaired (not parsable by JAWS or NVDA).	Plug-ins are available for Microsoft Office and LibreOffice. The Web Importer bookmarklet integrates into web browsers.

	Convenience	Communication	Accessibility	Integration
EndNote	Many institutions subscribe to this service, but a free version, Endnote Basic, is also available.	Share library with another EndNote user by going to File → Share. You may share only one library.	Works well with screen readers (JAWS and NVDA).	Can use the export feature from EBSCO databases.

TABLE 5.3 *Tips and Tricks for Familiar Word Processing and Spreadsheet Programs*

	Convenience	Communication	Accessibility	Integration

	Convenience	Communication	Accessibility	Integration
Word	Use Word as a whiteboard or mind mapping tool (to position ideas in a meaningful spatial arrangement, not just linearly) by double-clicking anywhere in the document page and typing. An .mp3 file can be converted automatically into text with the new Transcribe feature.	Use OneDrive or SharePoint to collaborate without emailing back and forth. Otherwise, use Track Changes; select Lock Tracking under the Track Changes menu to ensure that tracking is not turned off, or select Compare in the Review tab to recover changes made with Track Changes off.	To check your document for accessibility, under File, go to Info, then click the Inspect Document option to access the Check Accessibility feature. Use Styles to format your document, rather than manually adjust formatting.	Embed PDFs, spreadsheets, charts, images, and so on: Under Insert, choose Object. Edit documents stored on Dropbox by selecting Open with Office Online within Dropbox. Write blog posts in Word; when creating a new file, select Blog Post from Templates and use “Manage Accounts” to export to your WordPress, Blogger, TypePad, or other blog.

	Convenience	Communication	Accessibility	Integration
Google Docs	Use the "Explore" menu to search for information without leaving Docs. Apply the formatting of one section to another with the paint roller icon (next to the print icon). Type "doc.new" into your browser to start a new Doc quickly.	For getting in touch fast with collaborators, select "Email collaborators" under File or, in a Comment, use the "@" symbol and begin typing a name. This person will be emailed a notification.	Do not format your text manually as you go. Use styled headers (title, subtitle, heading 1, heading 2, etc.) and create preformatted lists (under the Format menu). Then add a Table of Contents (under the Insert menu) to maximize the doc's navigability for screen readers.	Embed a doc in a website by going to File, then Publish to the web, and select Embed. Explore the Add-ons menu (beside Help) to find tools for tracking citations, linking to research notes, adding fonts, translating, using rubrics, proofreading, signing documents, and more.

	Convenience	Communication	Accessibility	Integration
PowerPoint	Make use of the "Insert" tab. Choose "Screenshot" to insert an image of your screen without extra clicks or "Online Pictures" to cull from Flickr, OneNote, Facebook, and other programs.	If you have an Office 365 account, make your slides interactive by adding surveys, quizzes, or polls (go to Insert, then Forms). Access the results at forms.office.com.	Use preset slide designs and sans serif fonts. Avoid animations and transitions. Provide a PDF version of the slides if possible. Before sharing, under File, navigate to Info, then Check for Issues, then Check Accessibility.	Display live websites within PowerPoint by embedding a micro web browser in a slide. Under the Developer tab, click More Controls, select Microsoft Web Browser, and press okay. Then replace the URL in the prewritten code snippet with your desired site.

	Convenience	Communication	Accessibility	Integration
Excel	The "student calendar" template can help students keep track of their schedule and due dates in one sheet.	Easily produce diagrams, based on class data, to share interesting information (like a table showing grade distributions or a pie chart displaying poll results).	Alt text can easily be added to images, shapes, SmartArt graphics, and PivotTables. Use header rows and name all sheets (do not leave blank ones).	Use Microsoft Teams to collaborate on spreadsheets. Office for Android and iOS, a mobile app, can allow students to edit office documents from their smartphones.
Google Sheets	Use gradebook templates to keep track of student grades (make sure to keep it private!).	Poll your students on Google Forms and automatically see the results in spreadsheet form. You can also add comments to any sheet.	To enhance accessibility for vision-impaired users, use the Grackle Sheets plug-in for Chrome.	Can be accessed from a variety of devices (smartphone, tablet, laptop, desktop).

TABLE 5.4 *Tips and Tricks for Other Familiar Programs*

	Convenience	Communication	Accessibility	Integration

	Convenience	Communication	Accessibility	Integration
Microsoft Teams	Free for teachers and students. You can run it from your browser if you do not want to install an app. Available in a variety of mobile apps for smartphone use.	OneNote Class Notebook stores course materials of all kinds and shares them to students. Instructors and students can also annotate materials, allowing them to take notes or you to give feedback.	Add live captions to meetings under the "More Options" menu in the meeting control tab.	Full Microsoft Office integration. Integrated video meetings using Skype or Flipgrid. Try out Microsoft Teams for Blackboard if this is your LMS; otherwise, try Microsoft Teams for Education.

	Convenience	Communication	Accessibility	Integration
Dropbox	On your smartphone, swipe right on files to make them visible when you are offline. Enable "Share screenshots using Dropbox" under Preferences → Import to simplify sharing screenshots.	Commenting feature enables feedback or peer review without editing the document. Dropbox Education allows secure collaboration and document sharing. Send course materials or receive student assignment files that are too large to send over email.	Adheres to Web Content Accessibility Guidelines (WCAG) and fully accessible to VoiceOver.	Integrated with Microsoft Office Online so you can edit files on your browser. The Dropbox extension for Chrome will install a button for quickly sharing Dropbox files through Gmail. Store a OneNote notebook in Dropbox to create an automatically synced notebook.

	Convenience	Communication	Accessibility	Integration
GoogleDrive	Explore keyboard shortcuts, add-ons, apps, and browser extensions. If you use Chrome, enable the Access Drive Files Offline option under Settings and try out "Voice Typing" to dictate (and format) documents or slides.	Simultaneous editing across multiple users and/or multiple devices can simplify group work and feedback, especially with comments for asynchronous communication and chat for synchronous communication.	Sharing materials with students with GoogleDrive allows them to use Chrome's accessibility features seamlessly. For live captions, present with GoogleSlides and click on the "CC" button on the navigation bar at the bottom of the window.	In Canvas, embed "live" versions of GoogleDocs, Sheets, Slides, and so on (i.e., they will update automatically); in the Google app, select "publish to the web," copy the embed code, and paste into the Canvas Rich Content Editor.

	Convenience	Communication	Accessibility	Integration
YouTube	To create a screencast, press the Create button (the gray camera with a white +). Select "Go Live," set it to "Private," select the green screen share option at the left, and press "Start." When you are done, share it or download it through the dashboard.	To allow students to comment on videos or share their own while maintaining their privacy, embed videos in a course LMS shell or password-protected course website, or create a private group in Hypothes.is to comment via annotations.	YouTube uses machine learning to add captions to videos, without you having to take any extra steps. However, they are not perfect; to correct them or add your own captions, log in to YouTube Studio and navigate to the Subtitles menu.	Most LMSs support embedding YouTube videos right in your course shell. YouTube apps for Microsoft Teams, Slack, and other platforms also allow for sharing videos without leaving your course's online environment.

	Convenience	Communication	Accessibility	Integration
Zoom	Set your background as slides for better discussion experiences (do not have to switch back and forth from screen sharing). Familiarize yourself with keyboard shortcuts (under Settings) to minimize fumbling with your cursor.	Use breakout rooms for small discussions. Encourage students to use text chat window. Use the whiteboard option in the ScreenShare feature or enable annotations (highlighting, text, erasing, lines, shapes, etc.).	Zoom meetings can be started from Slack or Canvas. Create a custom background in Canvas combining image, text, and so on. You can also share your mobile screen in the ShareScreen feature. Consider adding file sharing or polling (under Settings, go to Profile and select Advanced).	Record meetings for students who need to be able to review discussion afterward. Under the Cloud Recordings section in Settings, enable "audio transcript" to add closed captions or produce a transcript file.

Many Ways to Secure Equipment

Though most DH activities we are covering here can be accomplished using simple equipment, there is still a small amount of logistical work required, especially if you would like your students to participate in digital activities themselves during class time (and therefore need equipment beyond the projector/laptop/internet setup). In this section, we briefly discuss the options for in-class computer work. We want to emphasize here that you do not always (and, indeed, do not often) need to book a computer lab in order to conduct a DH-oriented class. There are many ways of engaging students in digital learning without always having to worry about booking high-demand

university spaces. The solutions that follow are ordered from what we consider to be the least to most costly; for further reflections on the cost issue, see

Chapter 1.

Students Using Their Smartphones

Explanation: Although smartphone use in the classroom might seem to be associated primarily with distraction and with digression from pedagogical aims, students' extreme familiarity with mobile technologies can facilitate classroom participation in a variety of ways. Although we often (and usually, correctly) make assumptions that access to technology is difficult for underprivileged students, the internet is more ubiquitous than access to well-furnished libraries in some parts of the world, and many students who cannot afford laptops or home computers do own smartphones that are capable of loading electronic texts. Recent research confirms some of these assumptions, while refuting others. Internet access does vary, and, globally, it is correlated positively with privileged, English-speaking users, but access to internet-enabled devices (and particularly mobile devices) is far more ubiquitous than instinct would suggest (see "Online Activities in Emerging and Developing Nations" in "Further Reading"). Since the vast majority of students own a mobile device even if they own no other piece of technology, it can sometimes be preferable to *begin* by trying out activities on a mobile device rather than immediately booking a computer lab by default. And remember that not every student needs to have an internet-capable cell phone; by carefully designing group activities, you can ensure that only one person per group needs one, while providing significant and challenging roles for the other group members.

Sample activities: Of the activities in

Chapter 4, with a smartphone, you can do the N-grams activity, the word clouds, some digital events, the character role-play, digital media art, and crowdsourcing activity (the latter through the Zooniverse mobile app).

Students Using Their Own Laptops

Explanation: Though smartphone ownership is nearly universal among students, laptop ownership may be less so. Before you design an activity that requires each student to have a laptop, it is wise to make sure that every student in your class in fact has access to one (this is information you could request in the early student surveys we suggest in

Chapters 7 and

11). If you find that there are one or two students in a given class who don't own laptops, you may be able to check out individual laptops from your library, from IT services, or from your department. If you are able to have students use their own laptops, you can stay in your own classroom space for the whole semester, which may prove less disruptive than booking a computer lab, and may also save you from having to fight for a space that's at a premium. One further advantage of many regular classrooms over computer labs is that humanities rooms tend not to have fixed seating and therefore offer a more easily reconfigurable, dynamic classroom space that can cater to a variety of activities and approaches. However, if you find that, say, only 50 percent of your students own laptops that they can bring to class, you might wish to design activities that can be conducted in groups or pairs using shared personal laptops. This is, in fact, our preferred way of incorporating personal laptops into the classroom, as students can, of course, always work on their private laptops on their own time. Often group learning is one of the most effective ways of working through new tools and apps, and if you can orchestrate group work in your own space even if there are fewer computers in the room, you'll still gain the advantage of staying in your space while also facilitating the sometimes unexpected benefits that can arise from group and partner learning.

Sample activities: All of the activities in

Chapter 4 can be done with just student laptops, except for the physical computing exercise.

Computer Labs

Explanation: Though the use of students' own personal devices can offer some advantages, computer labs are also, of course, a viable option for a class that uses DH methods. Use of the actual computer lab at your institution might create a more uniform experience for your students, since the computers will all have the same specifications, the same security settings, and the same software installed by default. If you choose to use a computer lab, you will likely use it in one of three ways: scheduling the lab only for the days you need it, booking the lab for every class for a whole semester, or making a special arrangement to share a computer lab with another instructor (alternating days or weeks between labs and traditional classrooms). This latter option is a great choice if your department has access to just a few computer labs and, as a result, instructors feel they have to compete for such spaces; this is a compromise that needs no new resources, only some advance planning. All three of these options can work depending on your needs, but we would encourage you to look to alternative solutions and not to be discouraged if computer lab space is at a premium or if booking proves difficult.

Sample activities: None of the activities in

Chapter 4 absolutely require a computer lab, but all can be done in such a space, and some would certainly benefit from the setup, particularly the textual encoding and physical computing.

Library Labs and Facilities

Explanation: Beyond classroom-based computer labs, many university libraries are increasingly emphasizing DH and technology services. There are often traditional computer labs housed within libraries, but more recently there are also newer areas that fall under "research commons" or "maker space" categories. These newer labs might have some fun equipment that isn't accessible elsewhere, so it is well worth exploring what's available at your own institution in this respect. You may also use the library for resources and materials that are not primarily computational at all, as DH is closely related to media studies and book history. Field trips to special collections and archives can furnish your class with an abundance of material to play with digitally later, as we mentioned in

Chapter 1. You might also consider investigating the digital and lab-oriented resources of your local public library. As in the university context, public libraries are increasingly emphasizing digital literacy and creativity in their infrastructure priorities and in their programming. The Vancouver Public Library's newly launched "inspiration lab," for example, offers video and audio recording facilities, photo-editing software, e-publishing platforms, and technical support for all of the equipment. You could use such facilities to create a podcast or video documentary assignment, or you could simply bring the students on a field trip to check out the lab. The "inspiration lab," for example, is open to university groups as well as to the public, and often, students can do more than just use the equipment: they can participate through lab-based activities that start in the classroom but link to other and critical digital activities happening in their own local communities.

Sample activities: All of the archive-related activities are well suited to libraries, as are (of course) the field trip activities. Digital text capture, digital encoding, and physical computing activities might also partly take place in the library.

Departmental Equipment

Explanation: Your department might keep a stable of laptops, projectors, and, if you're at a very well-supplied institution, perhaps even newer equipment like 3D printers. In some cases this equipment can be signed out only by faculty, and in some cases (such as at art and design college, in C's experience), students can also check out the camera they want to use or the drone they want to try out. Frequently, these rentals require a deposit, either of a student or faculty ID card or of a set amount of cash. Many departments have trolleys of laptops or suites of tablet computers that instructors can check out. It is nearly always a good idea to check out the offerings of rental equipment and the terms under which the equipment can be rented well in advance. Sometimes tech equipment of this kind cannot be prebooked but is available on a first-come, first-serve basis, which means you'll have to be careful not to rely entirely on specialized equipment that you may not be able

to secure at the last minute. We would encourage you to find out what your department and your institution have to offer in this respect since it will vary considerably depending on your institutional strengths and resources.

Sample activities: It depends on the particular piece of equipment, but department-owned equipment may be especially useful for activities in which students work individually, such as maps, timelines, and Most Frequent Word (MFW) analysis (especially if it leads eventually to graded assignments).

Resources Housed in Other Departments

Explanation: Your fellow faculty in science, technology, engineering, and mathematics (STEM) departments at your institution may have access to equipment or classrooms that you may not typically have access to. For example, liaise with these STEM faculty members or with the administrative staff responsible for scheduling and physical resources to see if you have access to a classroom that follows the SCALE-UP principles. SCALE-UP—which stands for Student-Centered Active Learning Environment with Upside-Down Pedagogies—was originally designed for large-scale physics courses at North Carolina State University, but now humanist faculties are getting involved. Rather than divorce labs from lectures, and rather than isolating individual students into separate tables, these classrooms are arranged to facilitate movement, experimentation, and group work. Discover if your institution or a community organization has spaces like these that you can reserve.

Sample activities: All of the visualization, maker, and text-based activities we suggest here can be productively revised and amplified in response to the specific resources and classrooms that you might have available by reaching outside of your home department. Consider team teaching a course or simply merging one session or unit of your course with a STEM course so that two classes could collaborate on a single project.

Classroom or Curricular Development Funds

Explanation: If there is a specific piece of equipment you really feel you must have in order to meet your pedagogical goals that is not available through your department, your university library, the local public library, or your institution, you may wish to apply for teaching or classroom development funds in order to acquire it. Ideally, you will be able to find someone else who might also benefit from the use of the equipment in their teaching; in fact, sometimes, you can obtain administrative approval for the purchase by providing an explicit list of faculty members who attest that they will use this equipment. But the most important need to keep returning to, as we stress in earlier chapters, is for equipment that is driven first and foremost by your teaching philosophy and your pedagogical goals. Given the rather astonishing range of activities that can be accomplished without even leaving your classroom, specialized equipment funds should likely only be requested when there is a true substantive reason that you need it. One instance in which new equipment might be pedagogically vital is physical computing, which is the study of the relation between digital and analog objects. If you're including a unit on "The Internet of Things," for example, you may have very good cause to get your students working with a Raspberry Pi (a low-cost, high-powered, hands-on computing system designed for digital making). Often DH "maker labs" will have access to physical computing equipment, but if your university doesn't have one, you have a good case for acquiring the materials necessary to make such work possible in order to ensure that your students have a hands-on experience as well as a theoretical grounding. Make sure to check with your art and architecture departments as well; they may be willing to share materials that fit the needs of physical computing or maker culture.

Sample activities: The digital text capture, textual encoding, and physical computing activities mentioned in

Chapter 4 can be enhanced by the use of development funds to purchase imaging equipment and textual encoding software licenses.

Troubleshooting

A frequent nightmare of any instructor who uses technology is that day when you arrive in the classroom, stand before your eagerly waiting students, and find that your projector bulb has burned out, your PowerPoint presentation is not on your USB stick, the internet connection won't work, or the video you wanted to show won't load. We have all experienced such moments, but there does seem to be an added irony about them when there is a DH focus to the work that you're doing. Much of the time, rehearsing in advance, particularly in your exact classroom space, will reveal possible problems and give you a chance to solve them before you are in front of your class, but not all technological emergencies are preventable. Other problems may be solved by planned redundancy regarding your equipment choices, which means that you have prepared a second copy of materials or a second piece of equipment that can do the same job.

We offer a few practical solutions below, but it is important in such meltdown situations to have a few coping strategies. First of all, we think it is most important to keep a sense of humor and use the circumstances to your advantage, if possible. Don't be afraid to laugh at yourself, to point out the irony of a tech class with a tech failure to your students, and to take such challenges in stride. The more relaxed you can be about such difficulties, the more successful your class will be, even if you can't actually manage to show that video or do that digital exercise exactly as you planned. Failures of this basic technological kind, although extremely frustrating, are also sadly inevitable, and sometimes you can't actually fix them yourself.

Now that you have managed to keep your cool, you will want to find something substantive to discuss with your students. You can reflect on the causes or consequences of these glitches as you wait for the arrival of a

representative from IT services who can fix the equipment. If troubleshooting is taking up all of your available brainpower, break the class up into groups for discussing a related issue. If students are currently completing a major assignment or preparing for a test, give them time in class to work on it or to study for the test. Students can become distracted very quickly when disaster strikes—particularly if your DH-heavy course requires students to have their smartphones or laptops on them at all times!—so make sure that whatever solution you choose, act upon your choice *quickly*, that is, as soon as you realize that you cannot solve the problem within a minute or two.

Ideally, as you manage your classroom demeanor and your students' attention, you will want to troubleshoot to solve your problems as quickly as possible to get class back on track. Obviously, you can't fix something like a campus-wide Wi-Fi outage yourself, so alternative activities can be used in moments where solutions are not readily available. There are, however, many simple, general fixes that are worth knowing about for some mechanical and technical issues. Table 5.5 outlines some solutions you can implement for problems that you actually *can* fix yourself or that IT services might be able to expediently fix for you in time to get the class back on track. Keep in mind that most of these solutions rely on the principle of redundancy: try to have one more device to run software on or one more tool to try. If you do not know how to access extra devices or storage capabilities, ask your institution's IT services for help.

TABLE 5.5 *Troubleshooting Processes*

Problem	Solution

Problem	Solution
Just about any unexplained technical glitch (computer freezing, projector not working, etc.)	Check all cords to see if they are tightly connected, and turn the entire machine off and on again. There is a running joke in the British sitcom *The IT Crowd* in which the tech support team answers every single call with the question "Did you turn it off and on again?" and every single time, it works! While this is a little bit of an exaggeration, this method does actually work more often than not. Before you give up, reboot!
In-browser application does not work	Try using a different browser or updating your version of the browser.
Projector bulb burned out, hardware or equipment not working, missing cords, cables, or adaptors	This merits a call to IT services, who will have extra bulbs or parts or cords. There will likely be a delay (which ideally you can fill with an alternate activity), but hopefully you won't have to wait too long!
USB stick is broken or not registering with computer	This problem is one that actually requires a prevention approach: it's a good idea to save your presentations and work in both hardware and in the cloud. If you have your materials on Dropbox, your institutional "cloud," or LMS, you can avoid being USB-reliant.

Problem	Solution
Your computer is running excruciatingly slowly, especially while you're on the internet	Make sure that you are running as few programs as possible and that you have as few browser windows open simultaneously as possible. If the computer is a permanent workstation in your classroom, bring your personal laptop and project that instead.
There is no equipment in the room!	If your A/V order has for whatever reason not been processed, you will of course need to call IT services and get the equipment sent in, but we would strongly suggest that this is the perfect time for a short alternative activity while you wait.

In Case of Total Failure

Let's say you've tried all of our troubleshooting tips, and they aren't working. Instead of panicking or letting the class disperse, we suggest two other approaches for planning ahead that will ensure you have a few solid options open to you when disaster strikes. First, you should be ready to select a comparable classroom activity, ideally one that satisfies some of the learning objectives of the intended activity. Second, if you take advantage of modular course planning, you should be able to adapt your course schedule and move on quickly without permanently skipping over any intended activity. Above all, keep your ultimate objective for the activity first and foremost in your mind; as long as it is satisfied, you have success (if perhaps a qualified one) on your hands.

Comparable Classroom Activities

Our most basic suggestion to allay fears and prevent anxieties about technical failure is to have an alternative, but similar, activity ready to go. If you had intended to demo some text analysis software and find that the TAPoR text analysis platform won't load (even after you've tried rebooting and changing browsers), you could instead transition into a completely analog discussion about what is meant by "text analysis" in both computational and noncomputational settings. You could then pair this discussion with a close-reading activity in which you look at a passage and have the students identify elements they would normally find in a close reading. Next, you could ask students to step back and speculate about what they might like to know about a text that they *can't* see easily by looking at the text with their human eyes. This strategy introduces students to the core concepts that the TAPoR demo was meant to cover. You can still try the tool again in a later class or find a different tool that performs similar operations. This strategy can work with any tool; the trick is that you need to know in advance what students are supposed to be learning and thinking about by interacting with the tool, and then trying to approximate these objectives in an analog format or on a different platform.

Sometimes, a simple substitution will work. For example, when C had to teach in a different classroom building than she normally did, she found out during class that this building's computers did not have Java installed on them, nor could she obtain the administrator rights to install it. She simply moved her word cloud exercise from the intended software, Wordle, to Voyant Tools, which does not require Java. She learned from that heart-stopping experience that having a backup platform or application is one of the best ways to salvage a course activity quickly and smoothly. If you do not know of an alternative platform, you can always ask your students if they know of an app that sounds similar to the one you are discussing. S, when she was explaining the sophisticated academic annotation software Hypothes.is but had not prepared an activity based on it, was thrilled when her students introduced her to Genius, the simple, intuitive website that lets users annotate contemporary music lyrics. Because the students were already familiar with Genius, the class had a very productive discussion, though it was not what

she originally intended. In these cases, the "good enough" alternative was, well, *good enough*. What truly matters is that you find a way to satisfy the same core learning objectives that the activity was designed to satisfy. And even if that doesn't work, find a way to make the class session reflect the broader objectives of the course as a whole.

Flexible and Modular Course Scheduling

Flexible, modular classes contain units or assignments that can be switched around or that can be satisfied through any number of media. For example, if you are already prepared to teach the *next* course session, and you find that it is impossible to teach what you meant to teach that day, go ahead and shift gears and teach that next course session. Between the two sessions, you will likely find a solution, and you will not have wasted a course session but rather simply switched them around. Successful modular course design requires you to have a few extra lesson plans in your back pocket: something that is not on the syllabus (or perhaps something you had intended for later on in the course) but can be taken out at any moment and does not require you to have *recently* prepared for the session to succeed. You can find out more about modular scheduling in

Chapter 11.

As you construct your syllabus, you inevitably must throw out texts, tools, or topics that simply could not fit in your calendar. Don't just delete and forget these ideas; use them to construct a list—a kind of "shadow syllabus"—of these activities, and periodically refresh your memory of these options. Borrowing activities, lessons, or concepts from another, related course you have taught minimizes the effort you must take to have these extras ready when you need them. Alternately, if you have already written an assignment sheet (or, at least, have thought carefully through the next major assignment), you could take the time to explain the assignment. If an assignment has just been turned in or graded and returned to the students, have an assignment postmortem discussion about what the students did (and did not) do well.

Finally, if you are faced with an unexpected period of downtime, try steering the class toward an impromptu evaluation session about the course. By asking them which texts were most or least fascinating for them, by listening to student reactions to past activities and assignments, and entertaining suggestions from students about how to improve the course, you may be able to make some changes to the course for the rest of the semester and glean some tips for improving future versions of the course.

Conclusion

As you work through these strategies, remember, above all, that students do *not* expect you, or your course, to be perfect. They might expect instructors to display resilience or a positive attitude during moments of trial—for you, this might translate into displaying humor, ingenuity, flexibility, persistence, or professionalism—but they don't expect your technical execution of activities to be flawless. Fixing problems in front of a class demonstrates the try-try-again ethos of the DH community, which understands—and sometimes valorizes—these moments of crisis and difficulty. And do not forget to ask

students for help, whether that means a student reminding you of the correct command to fix the display settings on your computer station or you ask students if they have any alternative activity or discussion topic in mind as a replacement. Fostering a collaborative, project-oriented classroom is one of the strengths of DH, and bringing students into problem solving is a great way to stoke that communal spirit so prized by digital humanists.

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6

Creating Digital Assignments

This chapter covers evaluated, take-home digital assignments. These assignments can supplement in-class participation, comprise a component of the course's formal evaluation, or reinforce skills acquired through in-class activities. The chapter begins by explaining the basic principles behind sound assignment design. In the next section, which makes up the bulk of the chapter, we provide a catalog of the many options available for creating digital humanities (DH) assignments, including a description of the work involved, recommendations about particular platforms or applications to use, and ideas for pairing assignments with classroom activities. A section on advanced assignments features platforms that help students reflect about digital culture and computational practices in and of themselves (not just as a new way to explore your course content). These advanced assignments can also be scaffolded—that is, taught sequentially in a meaningful order—allowing students to apply their new skills directly to the next assignment. Finally, we share practical tips for designing assignment sheets (including a breakdown of "must have" pieces of information) to help you communicate your goals for the assignment to students and give them the confidence to succeed.

General Principles for Creating Digital Assignments

We have formulated a short set of concrete recommendations for assignment design that responds to the specific challenges of going digital:

1. Allay your own and your students' fears about new kinds of assignments by requiring short reflection papers for graded work that use new digital skills. Not only does this reinforce the humanities values and skills that are being taught across your students' degrees (including the skills to think critically, communicate clearly, argue persuasively, and analyze thoughtfully), but it also helps to balance any tech disasters students might encounter that might affect the actual product of their assignment.
2. Limit your students to one (new) particular tool or platform per assignment. Ideally, this will be the same one for each student. Staying focused on a minimum number of platforms allows you to give your students better, more focused "tech support" and encourages students to gain platform mastery so they can help one another.
3. Find a balance between openness and structure. Be flexible, but not *too* flexible. Adapting to your particular students' needs and to events in the news is good practice, but it can be taken too far if you're trying to individually troubleshoot different platforms.
4. Simplicity can be great: an assignment does not always have to be particularly complicated or avant-garde. Encouraging students to post their work publicly by making it available online in a gallery or exhibition is, for example, a very simple way to incorporate DH in your classroom, but students can learn a great deal about communication, knowledge translation, and information design in the process.

Common Types of Digital Assignments

The following assignments are ordered (roughly) from simple projects—uncomplicated or relatively fast assignments suitable for beginners or as building blocks for a bigger project—to complex projects that are more suitable for long-term assignments, group work, or end-of-semester projects. With careful thought, though, each one could be adapted into a shorter or longer assignment.

Using and Evaluating Digital Editions and Archives

Assignment description: Once you have facilitated in-class activities around digital archives—in which your students have explored the different features offered by various institutions and websites—you might consider an assignment that more specifically invites students to dive in and actually use a digital archive for a research paper or presentation. You could approach this very conventionally, simply by asking students to write a traditional essay using a digital archive as a repository of primary texts or research materials. Alternatively, you could have students complete a multistage assignment in which they first digitally annotate a resource, then write critically about the digitized object they are working with. If you yourself are involved in making a digital archive, you can also involve your students in the creation of specific aspects of the archive by assigning them (e.g.) a specific archival object for which they might produce metadata and written analysis. Be alert to opportunities that would allow your students to submit their work for inclusion into the archive itself. As we suggested earlier, a reflection paper on the archive's merits and failings is a worthy addition to any such assignment. Students might consider such crucial issues as the digital remediation of real-world objects, the curatorial decisions made by digitizing initiatives, the user experience of the archive, or the politics of open access—or lack thereof—regarding the history of a given resource.

What to tell your students: Students will benefit from learning how to think critically about how things appear on the internet, rather than taking the objects for granted.

Tips and tricks: To identify digital archival resources relevant for your course, send a query through the listservs operated by the academic organizations in your field, access a decade of winning projects at the DH Awards website (http://dhawards.org), and browse through the websites of libraries with robust collections in your field to see what they have digitized and made available to the public. Don't forget to look at government-owned collections held at the national and local levels.

Course-Specific Social Media Groups or Streams

Assignment description: Using social media allows you to adapt platforms that your students are likely already using. Social media in the classroom works best when you know for sure which platforms are preferred by your particular collection of students. Their preferences may not be what you think they are, and it's helpful to ask students what they would be comfortable using. Students perceive some platforms as intimate (making your requirement to use it feel like an imposition), while others are considered fair game for course instruction and teacher interaction. We recommend creating a custom hashtag on Twitter (#YourNeatClassTopic), then asking each student to write one or two tweets per course day that reflect on the course readings. You would begin each class day by projecting the new content from your social media streams; simply type your hashtag into the Search bar on Twitter to see your custom "stream." Beginning class this day both reduces your time for course prep (as students can produce talking points or questions through their tweets) and allows you to respond directly to your students' interests. If you choose a platform that you already use, consider creating a new account for your classroom so that you can keep your personal account clear of student interactions.

What to tell your students: Students will benefit from the habit of looking for an important "takeaway" or question as they engage with any

required text for any course.

Tips and tricks: Participation in a Twitter stream makes a great homework assignment or replacement for daily or periodic quizzes; simply adjust the rigor and frequency of their required participation so that it matches the effort required for homework or quizzes. If your students resist using Twitter because of its openness, have students make their accounts private and instruct them only to follow one another. That way, their tweets will only be visible to one another. Remind students that they can delete these accounts once the activity is complete. If your students want an open-source alternative, try Mastodon instead; if they are community-minded, try Care2 or Plurk.

Most-Frequent-Word Analysis

Assignment description: In

Chapter 4, we discussed using most-frequent-word (MFW) analysis as an in-class activity during which the instructor leads a discussion about MFW visualization platforms like Voyant (voyant-tools.org). There are a number of further steps you can take to adapt MFW into a method for completing evaluated, take-home work. Ask students to complete traditional research on the text being analyzed and write a comparison-and-contrast paper that ends with a reflection on the particular uses or shortcomings of both new and traditional modes of scholarship. Alternately, ask students to compare MFW analysis results from multiple texts, or have them translate MFW lists into more than one kind of visualization (such as charts, figures, clouds, or animated images) by using a spreadsheet program or the included options of comprehensive platforms like Voyant. Students might also experiment with adjusting stop-word settings or comparing results from the same texts when submitted to different MFW visualization platforms. Finally, do not overlook the possibility of using MFW analysis as a supplement to an existing assignment or method that you already teach; C, for example, tells students to use MFW to locate relevant passages to perform close readings as they plan and execute "traditional" literary critical essays.

What to tell your students: Students will benefit from approaching word clouds as a tool for jump-starting further analysis rather than approaching them as a stand-alone artifact that neutrally conveys facts.

Tips and tricks: Veliza, a function recently added to Voyant, is a natural language exchange program that, essentially, creates a chat bot based on the text(s) you have submitted to Voyant. Ask students to "talk to" Veliza and reflect on what this conversation reveals about the text. An advanced version of this would ask students to compare and contrast the utterances produced by Eliza with those created by a chat bot they create through Cheap Bots Done Quick (which we describe below).

Wikis

Assignment description: Wikis—simple, collaborative websites that are easily and publicly editable from any internet browser—require knowledge

of only a minimal number of "tags" (snippets of encoding markup) and coding conventions. A wiki provides not only a great way to become acquainted with markup languages in general but also is one of the very quickest and easiest ways to construct a website. Back in 2005, S, for example, taught her students how to use wikis to write and host their writing assignments after she herself had only known of the existence of wikis for a week! Wikis work well as a platform for enabling the sharing and revision of written assignments. Use them to allow students to view one another's work, as well as edit one another's work (or simply make suggestions for revision). A wiki can also be used as a platform for blogging (see the blogging assignment below). For students who would like to share information with the class but not with the public, and who would not like to use pseudonyms, use a service that enables password-protecting your wiki. Even if the content is not made publicly available, wikis offer one particular advantage over using in-house tools integrated into your Learning Management System (LMS): by learning how to contribute to a wiki, students still gain useful skills that are transferable beyond a closed, proprietary LMS.

What to tell your students: Students will benefit from learning one of the simplest, fastest ways to create internet content and practice encoding.

Tips and tricks: As you might expect, the most famous wiki, Wikipedia, boasts a very good page that defines wikis. Search for "free wiki hosting" to generate your own free course website. Wikispaces are free for educators, whereas PBWorks wikis are free for noncommercial purposes. For easy integration with your Google accounts, try Google Sites.

Blogging

Assignment description: Blogging offers students the chance to practice writing with a different voice and tone than they might use in a traditional essay. This option also allows you to ask students to explore the multimedia possibilities offered by a digital platform as they write and publish their blog posts. We would recommend showing your students examples of scholarly blogs in order to establish a tone that fits with academic practice in your

field. Blogging foregrounds some of the key writing skills of thinking about audience, style, and tone and encourages students to think beyond course content and more deeply into stylistic exploration and the actual communication of ideas. Assignments based on blogs can be smaller graded affairs that occur throughout the term, serving the purposes of reading a journal or reflection space for students as they work through the course material. In that case, they can either be graded for completion or for more specific features of quality or effort. Alternatively, blog posts can be one-off graded pieces of writing that individual students contribute to a group blog run by the whole class. In the cases where blog posts are used to replace more traditional term papers or research papers, one of the major advantages is the unfettered ability to use video, images, or sounds to augment the written materials.

What to tell your students: Students will benefit from developing the project management skills and writing skills that a blog demands.

Tips and tricks: For the easiest blogging platform, we suggest WordPress. This platform is so ubiquitous that either your students will already be familiar with it or they will thank you for giving them course credit for learning a platform they will likely need to use in the future. Your university may also have its own custom blogging platform, so if that's the route you would like to go, it's worth checking with your department or information technology (IT) services.

Mapping

Assignment description: Digital mapping APIs are some of the most user-friendly applications in the world of DH pedagogy, which is why asking students to create maps online is a classic and popular choice for graded digital work. Spatial trends underlay all humanities fields, not just history and geography, and digital maps can embed all sorts of data (images, videos, links, even spaces for public commentary) beyond pinpointing and connecting important locations. The most important question to answer is whether your students will create only the interactive, multidimensional map

or if they will also submit significant supplementary research and writing—for example, an essay that interprets the map and furthers a particular thesis. We recommend that, for your first foray into assigning digital maps, you restrict the students' attention to the map alone, though you might, as always, supplement this with a short written reflection. After you assess the quality of your first round of student maps and revise your tutorials and assignment sheets to reflect their successes and shortcomings, then you can design an appropriate matching research or written assignment.

What to tell your students: Students will benefit from collecting different formats of information (locations, images, videos, hyperlinks, text) and working them into a single interactive object.

Tips and tricks: In addition to trying out Google My Maps or Google Earth, which students may feel most comfortable with, explore some other digital mapping APIs, such as MapBox and, if you're feeling ambitious, Leaflet.js or Neatline for Omeka. For out-of-the-box ideas, look at the mapping activity and assignment sets in the Web Companion, as well as the links to other instructors' assignment sheets located there.

Multimedia Timelines

Assignment description: As you have no doubt already guessed, digital timelines are exciting ways to present information that is somehow chronological in nature (i.e., it has concrete times and dates associated with it). But timelines can also be used for any body of research or any argument that becomes clearer or more persuasive if it is ordered in a linear fashion—it can be divided into component parts that can be labeled first, second, third, fourth, and so on—and presented visually. Use a multimedia timeline, in other words, as an alternative to an essay exam, research paper, or other traditional research project. Students define a specific, narrow topic that they want to conduct research about; organize the fruits of their research into a timeline format, dividing their topic into subtopics to make the timeline easier to read; and incorporate multimedia (such as images, video, and audio

clips) as well as interactive components (such as quizzes and discussion questions).

What to tell your students: Students will benefit from systematizing their knowledge of course content as they break down information into roughly equivalent units and order them logically.

Tips and tricks: For beginners, make timelines with Tiki-Toki or HSTRY; advanced learners may use the platform preferred by DH scholars, TimelineJS.

Born-Digital Genres

Assignment description: Asking students to produce scholarly materials written in born-digital genres can be a fun introduction to DH and to public writing. Memes, listicles, quizzes, Tweets, Facebook posts, Pinterest boards, Instagram accounts, and webcomics provide opportunities for students to mobilize skills they already have and to be able to share their academic work with their friends and family members. In

Chapter 4, we refer to related activities as "social media activities," but here, we want to emphasize that graded assignments using social media (or otherwise interactive or peer-driven platforms) ask students to think carefully about how their everyday activities online are forms of writing that are structured by audience expectations and genre conventions. Classroom activities using these platforms often emphasize interactivity, immediacy, and spontaneity, but graded student work based on them should be well planned, well executed, well written, and well edited. It should be cannily pitched to the platform's audience and attuned to its characteristic conventions.

What to tell your students: Students will benefit from the break from traditional academic labor as they refashion course content into entertainment. Many will be motivated to share these creations with their friends outside of class.

Tips and tricks: We recommend polling your students to discover which particular platform interests them the most before you spend too much time crafting tutorials and assignment sheets. Free, in-browser webcomic makers are plentiful, from the simple MakeBeliefsComix to the more customizable Pixton to StoryboardThis, which can also be used to make infographics or spreadsheets.

Textual Annotation

Assignment description: This homework assignment allows your students to contribute collaboratively to a shared, annotated version of a course reading or other relevant text. This course reading must, of course, be available online (see

Chapter 1 for directions about making a text available online if your chosen text is not already available). With group annotation, instead of each student underlining relevant passages and writing remarks in the margins of the pages of their own, single copy of a physical text, all of your students "mark up" the same digital text. Because students can see one another's comments, these tools facilitate asynchronous class discussion and can inspire synchronous, in-class discussion as well. Most of these tools are plug-ins for browsers, so your students will have to download the (free) software and/or create a (free) account. Group annotation exercises are great as quiz replacements and fabulous for sparking class discussion. Moreover, many people find it easier to retrieve and revisit their previous annotations on these platforms than it is to locate their past interactions on social media platforms.

What to tell your students: Students will benefit from their peers' knowledge, and they may be able to apply digital annotation as a study aid for their other classes.

Tips and tricks: Encourage students to respond to one another's annotations, especially by asking and answering questions, thus creating a peer-learning environment. Use Hypothes.is for group annotations of live websites or Perusall for a wide variety of objects (including textbooks, uploaded files in a number of formats, and screenshots of websites).

Image Annotation

Assignment description: Similar to text annotation and digital mapping, image annotation allows you to anchor various kinds of data (text, links, other images) onto a particular section of a digital image. Recall what happens when you hover your cursor over a captioned image—you will see a description of the image—and then imagine planting various "hoverable" points on an image, each one of which will provide rich, new detail about its history, provenance, or relevance. Students could either annotate found images or create an image that they then themselves annotate. For a larger project, ask students to assemble galleries of multiple annotated images, not just one image; or ask students to annotate images that were generated by

their fellow students. For an even more complicated project, which requires students to reflect on platform choice and audience shifts, ask students to migrate finished images to Pinterest or another public platform of their choice.

What to tell your students: Students will benefit from learning a technique indispensable for universal design (see

Chapter 2). They will also improve their ability to analyze images.

Tips and tricks: ThingLink and Gigapixel are platforms that DH scholars commonly use. We also recommend Flickr because of its large user base (which means that you can easily search for answers to almost any question you might dream up) and its generous amount of included storage (up to 1 terabit—that's 1,000 gigabits—of storage for a free account). If your institution uses Canvas, you can experiment with its native AnnotationsX tool.

Digital Edition Creation

Assignment description: "Putting a text online" involves quite a bit more thought and effort than highlighting some text, pressing copy, and then pressing paste. And it's not, on the other end of the spectrum, merely an endless tedium of adding tags and markup language. Digital editions require a broad range of skills, from the creative tasks of design to the theoretical analysis of deciding what the text actually consists of, from the scholarly work of creating apparatuses and annotations to the technical work of choosing platforms and tools, and from the precision and accuracy of adding HTML tags to the organizational prowess of keeping track with files, personnel, and complete or incomplete tasks. If students choose small texts, such as a single poem, you might have success with asking individual students each to create a single digital edition, but we prefer forming students into groups of four to five, each of which will be responsible for a single text. Unless your students have considerable experience in encoding or web publishing, determine beforehand a limited suite of tools and platforms that students will be required to use. Avoid overemphasizing the technical minutiae of this activity so that students do not breeze over important editorial decisions. Emphasize that these editorial tasks—such as the selection of text, the sourcing of their text, their imaging or transcription of the text, and their choice of scholarly apparatuses, such as introductions, biographies, annotations, translations, and explanations of historical context

—are just as important as learning how to digitize a text, encode it, and host it.

What to tell your students: Students will benefit from learning an entire suite of digital skills that are useful in many personal and professional contexts.

Tips and tricks: As with the digital archive assignment mentioned in the next section, carefully sequence this assignment after students build up, step-by-step, the skills that will be used to create a digital edition. Make sure you spend some course time teaching a method of capturing your plaintext (such as the smartphone app Office Lens or ScannerPro), as well as some time on the encoding scheme and software that your students will use to design and display the edition (we recommend using the HTML preprocessor Markdown and, for creating the website, GitHub pages, which uses the static-site builder Jekyll). For another way to make webpages easily from a few files, store them in a folder on Dropbox and use Pancake.io or DropPages to convert them into a static site.

Digital Archive Creation

Assignment description: As we discussed in

Chapter 1, digital archives are web-accessible repositories of surrogates (digital images, scans, or transcriptions) of any material considered of cultural importance. Some are collections of digital editions of important texts, whereas others are primarily visual. Still others are multimodal, containing a wide variety of digital objects in many different file formats. As a result, a digital archive could form the basis of a public history project, a fieldwork project, a literary or visual culture project, a genealogical or family history project, or a curatorial project focused on your own institution's brick-and-mortar archives or special collections. Technically, you can create an archive from any digital platform—any website builder could be used to host and design a digital archive—but in the DH community, content management systems (CMSs), such as Omeka, Drupal, and Scalar, are considered standard. These platforms, especially Omeka, are easy to use and free for most users. Even WordPress can work in a pinch. Archives can be created by individual students, by small groups, or by the entire class. We recommend this latter, communal option, as it allows students to choose roles that suit their skills and tastes; some may focus on object acquisition while others on graphic design, on metadata collection, or on the technical nuts-and-bolts. By working as a team, your class will more likely create an archive that is successful, comprehensive, attractive, and durable.

What to tell your students: Students will benefit from learning how to publish cultural content online. They will also discover the importance of good data management skills by learning how to create accurate, consistent, complete metadata.

Tips and tricks: Collaborate with local librarians and archivists to cultivate a project that will be useful for the broader community. Consider prefacing this assignment with a digitization activity (so they can create their own digital assets), a wiki-based assignment (so that students learn rudimentary markup), or a blogging assignment (so that students learn how to use the same platform that will later be used to host the digital archive).

Advanced Assignments

Digital Storytelling

Assignment description: Digital storytelling is the practice of using digital tools to construct and share creative writing pieces (whether fiction or nonfiction) through text, image, sound, video, or (better yet) a combination thereof. In the classroom, digital stories can be great alternatives to traditional essays because of their multimedia capabilities, as students can mix-and-match different media formats to suit the story they want to tell. Typically, digital storytelling has some sort of personal component—there is clearly a very strong first-person "I" at the helm!—so you might want to construct an assignment that asks students to connect course content to their lives or to current events. Podcasts, blogs, vlogs, single-shot YouTube videos, and slideshows (with or without soundtracks or voice-overs) are popular formats for digital storytelling. For free software, tell your students to turn to WeVideo (videos or vlogging), Audacity (podcasting), Canva (slideshows), or Screencast-o-matic (free for screencasts five minutes or under). Our favorite platform for digital storytelling is Twine, a very approachable, open-source tool for creating Interactive fiction. Created by Chris Klimas, Twine cleverly leverages hypertext—the practice of linking pieces of content—to construct branching, nonlinear narratives. Readers click their way through the narrative as they like, somewhat in the manner of a Choose Your Own Adventure book. Twine does not require any previous familiarity with encoding or programming, but it does support HTML and CSS, allowing you to customize the appearance of the story (background color, font, text size, etc.). It is also possible to create a Twine story collaboratively and to incorporate images, music, or videos. Because Twine is frequently used as a game engine for making text-based role-playing games (Zoë Quinn's *Depression Quest* is one popular example), you can use it for a digital storytelling assignment or for a game creation assignment.

What to tell your students: Students will benefit from experimenting with hypertext, which is the backbone of the internet. Hypertext is the "HT" in HTML (Hypertext Markup Language), so learning about it will be a painless introduction to markup languages like XML.

Tips and tricks: Story Center (storycenter.org) is a wonderful resource for digital storytelling. If you have some curricular development funds, consider enrolling in one of their online workshops. For directions regarding Twine, Klimas offers a detailed guide written in straightforward, student-friendly prose (https://twinery.org/wiki/twine2:guide). Before you ask students to create their own Twine story, let them browse through a number of examples (try https://itch.io/games/made-with-twine) so they can get a feel for what is possible with the medium.

Automatic Text Generation

Assignment description: You have probably encountered automatic text generation in the form of Twitter bots or those spammy product reviews that were clearly not written by a real consumer. These are created by text generators, which are programs that define basic rules (a grammar) for how text should be structured and then draw randomly from a list or lists of words (a corpus) to create statements that follow the grammar. A typical grammar will include rules for the syntax of the sentences, the number and length of sentences and paragraphs, the position of punctuation marks or emojis, and the like. It's not unlike MadLibs, the game that contains a story from which words are removed and then players are asked to provide words at random, based on parts of speech, without knowing the context. Many DH projects, such as Twitter bots, feature automatic text generation, and many of them use Tracery to do so. Tracery's creator, Kate Compton, defines it as a story-grammar generation library. Written in JSON (JavaScript Object Notation), the Tracery library can be used to generate text, images, or even music. While Compton supplies the JavaScript code to generate text, your students will need to dream up their own grammar and supply their own corpora, which allows you to tailor the assignment to your course content. It will

likely take students a week (2–3 classes) to get the hang of Tracery. If you want students to create a Twitter bot using Tracery, it will take a further 1–2 classes. We recommend having each student complete their own separate project but work in small groups so they can help each other troubleshoot.

What to tell your students: Students will benefit from the way that automatic text generation highlights data structures. Whereas teaching data structures by having students work with databases certainly works well, playing around with text generation may be more entertaining. It will also help them become aware of how much "authored" work online is automatically generated, which will improve their digital literacy.

Tips and tricks: To get started with Tracery, you should sign up for GitHub, fork Compton's repository (https://github.com/galaxykate/tracery), and start playing around with Darius Kazemi's Corpora (https://github.com/dariusk/corpora) if you do not already have a particular set of words in mind. Compton maintains a welcoming tutorial (http://www.crystalcodepalace.com/traceryTut.html). For those who are unfamiliar with JSON, Allison Parish's tutorial may be the better choice (http://air.decontextualize.com/tracery/). Students may want to compose their Tracery grammar in the Tracery Visual Editor (https://www.brightspiral.com/tracery/), which will let them check their work in real time and view the results of their text generation.

Twitter Bots

Assignment description: Twitter bots automatically generate and post tweets at a predetermined rate. They are often used to parody pop culture (the Kim Kierkegaardashian bot mixes up quotes from the philosopher Kierkegaard with statements from Kim Kardashian). Some have self-care purposes (the Tiny Care Bot, the Nice Tips Bot, and the Soft Landscapes Bot are good examples), while others have a darker twist (the Endless Screaming bot or the Earthquake bot, which automatically announces all earthquakes above a certain threshold). Some provide educational content to the general public by tweeting out images from museums (MoMA Robot) or stunning

images from satellites, while others, like the Every Color Bot and Emoji Aquarium, are purely for fun. Some lay bare the stylistic and structural characteristics of digital journalism—the Think Piece Bot or the Two Headlines Bot, for instance—while others use literary sources for their content, like the Magic Realism Bot and Mark Sample's This Is Just To Say bot, which adds steadily to the plethora of meme parodies of William Carlos Williams's poem about purloined plums. A bot might use machine learning, via Markov chain algorithms, to generate sentences based on prelearned patterns from an existing text. Or it might use Tracery to select words or phrases randomly from a preselected corpus (a large pool of words that you have identified and, sometimes, tagged according to some scheme, such as part-of-speech or mood) and assemble them according to a formula that you have set up. In the case of the plum meme, for example, the original poem itself becomes the template. A few words are removed, and the bot selects words from the same grammatical category to replace them, then tweets out the results. Your students can create bots singly, in pairs, or as groups, although with the wide range of easy tutorials available, it will not be necessary for more than 1–2 people to be involved in creating a Twitter bot. The bot's corpus could be derived from your course texts, be populated with key terms and figures from your field, or could be related to some element of digital culture that you are teaching.

What to tell your students: Students will benefit from understanding how bots typically work and how automatic content is often generated. Take the opportunity to ask critical questions about how much content online is generated automatically, from fake product reviews to templated blog posts to purchased social media account followers. They can also serve the public by making a bot out of the materials you are reading in your course or by dreaming up a Twitter account that shares new research data, promotes self-care, or exposes the clichéd or dangerous tropes that underpin much online writing.

Tips and tricks: DH scholars are fans of the free service Cheap Bots Done Quick, created by George Buckhenham, the developer of the Soft Landscapes Bot. It may be even easier to use in your class because it

depends on the generative grammar Tracery (discussed above in the storytelling assignment section). For tutorials on Cheap Bots Done Quick, see the posts by Shawn Graham and Andrew Pilsch in the Further Reading section. If your students are happier to work with spreadsheets than with Tracery, see Zach Whalen's tutorial, also cited in the Further Reading section.

Web Scraping

Assignment description: Web scraping is a process that gathers data from an application or platform. Researchers who have questions about the mountains of information and conversations logged into services like Facebook or Twitter can create bots or web crawlers to communicate with these applications' servers, access the desired information, and store it in a usable format (such as a spreadsheet) that can be searched through a structured query language (SQL). Let's say, for example, your students want to find out how Twitter account holders used the platform to participate in the Arab Spring, find information about protests related to Black Lives Matter, or debunk misinformation in the early days of Covid-19. Your students might enter a simple search query into a Twitter client and browse some results, even looking through hundreds of them if they work together, refine their search query, and record the results in a spreadsheet. You might even ask your students to do this in class as a collaborative assignment. But what if students want to make a statistically valid argument or find patterns among tens of thousands of tweets? This is why you might consider using web scraping in the classroom. Of course, not all companies or website creators are friendly to web scraping; not only can it increase their traffic (read: it costs money!) but also it can seem like a major threat if their security protocols do not distinguish between malicious bots—ones that are mining cryptocurrency or launching a distributed denial-of-service (DDoS) attack—and those that are merely trying to help students in an Introduction to Feminist Theory course understand intersectional feminism by analyzing patterns in tweets directed toward women-of-color politicians. In this case, see if the

application you want to query maintains or allows the use of APIs (Application Programming Interfaces), such as Twitter's Historical PowerTrack and Full-Archive Search. You can also search Wikipedia in this way by using a SQL to query DBPedia, a database that serves as a kind of backup for Wikipedia, which changes too quickly to be backed up continuously in the format that you see when you browse it. For instance, compare the Wikipedia page for the West Indian psychologist and philosopher Frantz Fanon (wikipedia.org/wiki/Frantz_Fanon) with its DBPedia analog (dbpedia.org/page/Frantz_Fanon), which is structured as a database. Once you and your students have downloaded or manually assembled structured data, they should return to their research questions to form queries about the data—that is, to search it for patterns that they can then describe in words or render in statistical form or as tables or graphs. Students should then write formal reports about the results of their research. A scientific laboratory format may be best here (this will contain a title, abstract, introduction, method, results, and discussion), but you might also use a scientific research paper format (title, abstract, introduction, methods, results, discussion, acknowledgments, bibliography).

What to tell your students: Students will benefit from understanding how the vast amount of information "on" the internet is stored and served. They will also be able to generate data that will help them form useful hypotheses about public reactions to major global events and about how the words used on social media platforms are a form of cultural data.

Tips and tricks: For an introduction to databases, see Ramsay in the Further Reading section; for concrete instructions about how to query databases, see the Programming Historian tutorials in the Further Reading section (Blackadar; Düring; Lincoln), attend a course on databases at the Digital Humanities Summer Institute or the Digital Humanities at Oxford Summer School, or enroll in the free Introduction to SQL course managed by the nonprofit Khan Academy.

Writing Effective Assignment Sheets

As we mentioned in

Chapter 4, assignment sheets should contain more information than activity prompts. This is true not only because they involve more work but also because they are typically subject to formal evaluation and can therefore prompt more anxiety in your students. With students' grades on the line, and with more work taking place out of the classroom, your knowledge, your vision, your authority, and your power to reassure need to animate every phrase in this document. The more precise and detailed it is, the more your students will feel confident in approaching their tasks, will encounter fewer unforeseen or avoidable obstacles, and will not have to contact you at every stage in the project for clarification or help. As David Gooblar has written,

> Offering students a clearer and more transparent picture of their assignments before they start can lead to better results, particularly among student populations that typically perform poorly. That means explaining the overall goals you have for the assignment (what knowledge you want students to gain, what skills you want them to practice), the particular steps you expect them to follow in completing the work, and the specific criteria you will use to evaluate them. Putting in extra work at the outset to make sure that students fully understand what's being asked of them can save you work when it comes time to grade. (par. 6)

Ensuring this transparency, as Gooblar intimates, does take extra time, as you will need to put yourself into your students' shoes to imagine what kinds of information you yourself would need. When you craft your assignment sheets, design them so that they share a great amount of detail with students and yet avoid information overload. To do this, carefully organize your assignment sheet to introduce the right kind of information, in the right amount, at the right level of specificity, at the right time. Stipulating evaluation criteria before providing step-by-step instructions, for example, may induce anxiety and emphasize your grading process over their learning process. Each assignment sheet should therefore begin with a brief, broad overview. This overview should contain a concise summary as well as a rationale for the assignment. Now is the chance to convey "big picture" ideas, not become bogged down by technical minutiae. To explain why students are completing this work, link the digital skills required by the assignment with your course

objectives, with major themes and questions that have recurred throughout your class, or with the research goals and methods of your discipline.

After you have described the "what" and "why" of the assignment, move to "how." Provide detailed technical instructions that move chronologically through all the actions they will need to take, ideally numbering each action step-by-step to ensure clarity. You may also wish to walk students through these tutorials in person during class in cases where a new technology or tool is crucial to the success of the assignment. As with activity prompts, you may be able to outsource *some* of this technical information by providing copies of or links to documentation and tutorials. Be aware of any information that is not included in readymade tutorials but that your students will need to know. For example, you will have to provide explicit instructions for how to submit their work (is a URL via email enough?) and, in the case of group work, instructions for how groups should communicate and keep track of who did what work. If the assignment requires special equipment, tell students how to source it within your institution; if it requires students to import data, tell them where they will source this data and how to tell if the data is reliable or not. Supply these missing links for your students in your assignment sheet or, if possible, tweak an existing tutorial to make it work better for your students.

You should also provide explicit evaluation standards that explain to students the criteria you will be using, as well as how each criterion is weighted (e.g., 20 percent of the final grade) and the signposts for or characteristics of student work that will be judged as exceeding, meeting, or failing to meet these standards. Check that the relative weights assigned to each criterion match your stated learning objectives for the course in general and for this assignment in particular. If a skill, task, or concept is important to you, it should be reflected not just in your explanation of course work but also in your students' grades as well. To ensure the consistency between your grading policies and your goals for the course—which will help you convince students of the appropriateness of their grades—you might even write your grading rubric or evaluation standards *before* writing the rest of the assignment sheet. As we discuss further in

Chapter 7, your students will greatly appreciate it if you are perfectly explicit and consistent in your grading criteria for DH-related assignments, and rubrics are a tried-and-true method for making standards explicit and for establishing this consistency.

Finally, where possible, provide examples of successful work. Ideally, this sample work will be from your own former students who were completing the same assignment, so when you try out a new assignment, ask your students for permission to share their work with future students. (Written permission is best, and make sure you know if the student prefers to be named or left anonymous.) If you make it a policy to add a maximum of only one *new-to-you* type of assignment for every course section that you teach—and we are enthusiastic proponents of this policy!—you will be able to reuse older assignment materials from a prior semester in every case but the single new assignment you have designed. You can also search online for student work completed for a similar assignment in another institution. If none are available, point your students toward professional or scholarly examples, but make sure to allay any fears by discussing with them the differences between novice work (i.e., what your students will turn in) and the expert work you have shared with them.

Many pedagogy experts (including Gooblar, cited earlier) suggest that even if you do have sample student work to circulate, you should also complete the assignment *yourself*. Not only will doing so allow you to check for gaps or problems but also this process should produce at least one piece of sample work that is perfectly tailored to your context. If you do not think you have the time for this, consider that putting in the effort now will likely, in the long run, save you time that you would spend answering student questions and troubleshooting for them. An alternative is to ask students to complete in-class activities, such as the ones we described in

Chapter 4, or brief homework assignments that use the same tools as the assignment, will provide "dry runs" for the students. Last-minute technical issues or conceptual problems will be minimized because students will have already experienced them during a low-pressure classroom activity, when they can ask fellow students and you for help.

Conclusion

A well-designed assignment sets the stage for your students to shore up previously acquired skills, to practice new skills and concepts, to explore course content in new ways, and to produce original research in your discipline. When the assignment involves DH components, it will, in addition to these goals, ask students to understand course content in relation to digital cultures and apply it to digital platforms and technologies. Whether or not you adopt the specific assignments described in this chapter and in the Web Companion, the general principles behind designing challenging yet achievable DH-inflected assignments and writing effective assignment sheets remain the same. And whether the assignment is the centerpiece of a class that is routinely engaged in DH methods or a special case in a more traditionally designed humanities course, it should inspire you and your students to understand your discipline in new ways. No matter what, you will undoubtedly zero in on your own pedagogical style in adapting digital tools to your discipline, and we only hope that you will apply the concepts of

Chapters 9 and 10 to expand and share your new ideas about DH-inflected assignments.

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7

Evaluating Student Work

Evaluation can be complex for digital assignments. Indeed, one of the major anxieties facing any instructor who wants to try something new, whether it's a creative assignment or a digital project, is how assessment will work. We are comfortable grading conventional exams, essays, and writing assignments because these more traditional projects tend to have familiar assessment standards for humanities instructors and many of us have had some formal training or mentoring for grading academic written work. But what if our students begin handing in original computer games or digital photo collages? How, then, does one assess a digital project using humanistic evaluation methods? What are the criteria for digital assignments, and how do these differ from more conventional humanities assignments? And how do you grade students who have encountered difficult technological obstacles or glitches that they could not have foreseen?

In this chapter, we outline some suggestions for maintaining fair evaluation practices even as you and your students take exciting risks in the classroom. We offer advice about clearly communicating evaluation standards by crafting logical rubrics or other systematic approaches to grading to help your students approach digital work with confidence. Next, we discuss how to involve students in their own evaluation processes and

briefly introduce the concepts of iterative learning, process-oriented evaluation, and multiliteracies. Finally, we discuss how to help students cope with failure and make suggestions for *you* so that you can cope with any shortcomings in your assignment construction that are revealed during the process of evaluation. By consciously crafting your assessment policies and methods, you can overcome one of the biggest fears students have about digital work: that their grades will suffer because they believe they are not "good with computers." Your students will not only be more comfortable with digital work when they know exactly how they're being graded, they will also produce *better* work.

The Importance of Explicit Assessment Criteria

Although your students might show resistance to your explorations in digital humanities (DH) pedagogy, we instructors, on the other hand, can be so excited that it's easy to lose sight of our course objectives and assignment sheets. You may find yourself so charmed by a student's Instagram feed curating Byzantine art or an Omeka installation about an underappreciated Indian anthropologist that you want to give the student full credit for its sheer boldness, novelty, or aesthetic attractiveness. Or you may be tempted to change gears in the middle of an assignment if you find a new tool, or if students seem more interested in a different platform or medium than you have identified. But when it comes to assessment practices, despite the virtues of flexibility in assignment design, you will normally achieve better results by adhering closely to the course materials, learning outcomes, and evaluative criteria that you have already communicated to students. Fortunately, if you have already crafted careful policies, you may find it simple to adapt your existing policies in ways that both you and your students find fair.

In other words, being thoughtful, clear, and careful about your own assessment practices (and honestly reflective about how well they're

working) can help you avoid confusion among your students. Remind your students—and yourself!—that course objectives and assignment sheets are created for the mutual benefit of instructor and student. Clear rubrics and/or checklists allow you to check the consistency and objectivity of your judgments, while also showing students where their efforts are best directed to succeed in an assignment. Consequently, you can emphasize that your evaluative criteria are not there to find a way to trip up a student, take off points, or find fault in unproductive, nitpicky ways, but rather are there to guide their work and clarify the purpose of the assignment. And we strongly believe that adventurousness in assignment creation can actually be facilitated with the use of structured and stable evaluation criteria.

Even more importantly, rubrics will show students that your primary motivation while grading is process, rather than product—in other words, that the purpose of this assignment is to help them reflect on course content, gain digital skills, and think critically about humanist content in unexpected ways. If you have created a detailed rubric or evaluation checklist to guide your grading process, share this beforehand with your students and encourage them to keep this rubric or checklist somewhere visible to guide them as they work. Better yet, set up in-class or virtual peer review sessions (or self-review) before students turn in the final project, and require each peer reviewer to use the same rubric you will be using. Providing a sample, filled-out rubric—one filled out by you, including a grade, so that students can see a firm link between the rubric and the grade—will ensure that this process does not lead to students simply praising one another or underestimating how many points will be taken off for underperformance on certain aspects of the assignment.

Anatomy of a Rubric

A rubric is a formal guideline used to evaluate student work. It often comes in the form of a table whose rows correspond to particular criteria for

judgment (some quality or skill being graded) and whose columns correspond to the degree of success achieved by the work in each criterion (either with labels, such as "competent" or "not yet competent," or a numerical value, such as a scale from 0 to 4). Some instructors dislike formal rubrics because they do not appear to give the instructor the opportunity to judge each piece of student work on its own terms, making grading feel too mechanical and impersonal. Others have had bad experiences with rubrics that seem to trap them into giving an entire class grades that seem artificially high or low. Indeed, a rubric that does not reflect the true pedagogical value of a particular assignment leads to a kind of assessment indecision as the instructor raises or lowers scores for various categories until the score that seems fair is reached.

Despite these caveats, a well-formed rubric will make your grading both faster and fairer, and those who feel trapped by analytic rubrics, in which the instructor separately scores each grading criterion, can experiment with holistic rubrics. These holistic rubrics still identify grading criteria and describe how the student has performed in each category but do not assign point values to individual criteria. For examples of holistic and analytic rubrics, see Figures 7.1 and 7.2. All effective rubrics will convey a few common pieces of information, as set out in Table 7.1.

MAPPING ASSIGNMENT

Rubric and Grade Sheet

	Sophisticated (S)	**Competent (C)**	**Partly Competent (PC)**	**Marginal (M)**	**Not Yet Competent (NYC)**
Quality of research into spatial information of text	Each "pin" is well-chosen, thoroughly described	Pins are accurate, with interesting descriptions	Pins are accurate; each one has a description	Not enough pins or not enough description	Inaccurate pins or descriptions
Quality of thesis about role of space in given text	Thesis is original, specific, debatable, compelling	Thesis is clear, persuasive, and interesting	Thesis is accurate but not original or specifi c	Thesis has many problems with it, is vague or unclear	No thesis or particular argument made
Correspondence between map and essay	Map and essay are so consistent that map proves thesis	Map and essay argue same thesis, use same examples	Some information in map is not relevant for thesis	Most of the map's information is not relevant for thesis	Map refutes or does not reference essay's argument
Quality of map design and appearance	Map is designed so well that thesis is seen at a glance	Map uses design tools well: color-coding, layers, lines	Map is organized well but does not exploit design tools	Design choices seem to follow no rationale	Map is confusing or haphazardly constructed
Thoughtful incorporation of course content	Many prior course readings and concepts invoked	A few references to course concepts and texts	One text or concept from class is discussed	Connections to course content are vague or inaccurate	No evidence of learning from course content
Professionalism	Beautifully written, proofread, follows all instructions	Well-written, follows all instructions	Some minor typos or deviations from assignment sheet	Turned in late, in the wrong format, or full of typos	Late (without permission) or in unacceptable form

Spatial Information	S	C	PC	M	NYC	Name:_____
Thesis/Argument	S	C	PC	M	NYC	
Map-Essay Matching	S	C	PC	M	NYC	Grade:_____
Map Appearance	S	C	PC	M	NYC	
Course Content	S	C	PC	M	NYC	Comments:
Professionalism	S	C	PC	M	NYC	

FIGURE 7.1 *A sample holistic rubric.*

MAPPING ASSIGNMENT

Rubric and Grade Sheet

	Sophisticated (S)	**Competent (C)**	**Partly Competent (PC)**	**Marginal (M)**	**Not Yet Competent (NYC)**
25 pts: Quality of research into spatial information of text	Each "pin" is well-chosen, thoroughly described (22–25)	Pins are accurate, with interesting descriptions (17–21)	Pins are accurate; each one has a description (10–16)	Not enough pins or not enough description (5–9)	Inaccurate pins or descriptions (0–4)
25 pts: Quality of thesis about role of space in given text	Thesis is original, specific, debatable, compelling (22–25)	Thesis is clear, persuasive, and interesting (17–21)	Thesis is accurate but not original or specific (10–16)	Thesis has many problems with it, is vague or unclear (5–9)	No thesis or particular argument made (0–4)
15 pts: Correspondence between map, essay	Map and essay are so consistent that map proves thesis (13–15)	Map and essay argue same thesis, use same examples (10–12)	Some information in map is not relevant for thesis (6–9)	Most of the map's information is not relevant for thesis (3–5)	Map refutes or does not reference essay's argument (0–2)
15 pts: Quality of map design and appearance	Map is designed so well that thesis is seen at a glance (13–15)	Map uses design tools well: colorcoding, layers, lines (10–12)	Map is organized well but does not exploit design tools (6–9)	Design choices seem to follow no rationale (3–5)	Map is confusing or haphazardly constructed (0–2)
10 pts: Thoughtful incorporation of course content	Many prior course readings and concepts invoked (9–10)	A few references to course concepts and texts (7–8)	One text or concept from class is discussed (4–6)	Connections to course content are vague or inaccurate (2–3)	No evidence of learning from course content (0–1)
10 pts: Professionalism	Beautifully written, proofread, follows all instructions (9– 10)	Well-written, follows all instructions (7–8)	Some minor typos or deviations from assignment sheet (4–6)	Turned in late, in the wrong format, or full of typos (2–3)	Late (w/o permission) or in unacceptable form (0–1)

Spatial Information	S	C	PC	M	NYC	____/25 pts	Name:_____
Thesis/Argument	S	C	PC	M	NYC	____/25 pts	
Map-Essay Matching	S	C	PC	M	NYC	____/15 pts	Grade:_____/100 points
Map Appearance	S	C	PC	M	NYC	____/15 pts	
Course Content	S	C	PC	M	NYC	____/10 pts	Comments: See back of page
Professionalism	S	C	PC	M	NYC	____/10 pts	

FIGURE 7.2 *A sample analytic rubric.*

TABLE 7.1 *Information Students Need from Rubrics*

Kind of Information	Minimum Requirements	Going Further
Which criteria are under evaluation	Explain which skills, knowledge sets, or learning objectives are being measured. Carefully check that the number of identified criteria associated with humanities disciplinary knowledge versus those associated with digital humanities achievement accords with your vision of their relative significance. They should reflect the learning objectives you have outlined on the assignment sheet as well as (in a looser way) on the syllabus.	Use "subcriteria" (subheadings or bulleted lists) if you want to add a greater level of detail or greater number of requirements to one criterion without confusing the students.
The relative weight given to each criterion	In an analytic rubric, assign an absolute or relative value for each criterion (i.e., a point value or percentage). Check that you are comfortable with the total number of points a student can earn from their digital explorations versus those earned from demonstrating disciplinary knowledge.	Vary the weight given to technical achievements from one class to another and from one assignment to another. For example, if multiple assignments in the same class make use of the same technology, gradually lower the total points possible dedicated to mastering that technology so that it is not overrepresented in their final grade.

Kind of Information	Minimum Requirements	Going Further
Benchmarks for identifying the extent to which each criterion is met	Specify, in as much detail as possible, the characteristics of successful or unsuccessful performance for each criterion. Identify the characteristics of work classified as exceptional, strong, competent, partially competent, and unacceptable or not yet competent work. With DH projects, you will likely accept a broader range of acceptable characteristics than you normally would.	"Live grade" a sample project in front of your students to show them how you connect discrete traits to abstract criteria. Alternatively, have students practice grading one another's work using the same rubric you will be using.
The role of effort	Explain how much you value your place on signs of commitment (such as total time spent on the project, revisions, or visits to office hours), and how much emphasis it is accorded relative to judging the final product. You can, of course, judge the final product alone, rather than effort, but this is a potential context for giving students credit for their projects' dazzlingly originality, beauty, or technological sophistication.	Ask students to write a short reflection paper about their project. This reflection should candidly share their process: what they learned about course content, what failures or successes they had, how they engaged with DH methods. This will help you reconstruct or verify the amount and kinds of effort the student made.

Kind of Information	Minimum Requirements	Going Further
The stakes of unprofessionalism, error, or failure	Specify your level of tolerance for late work, technical problems, formatting inconsistencies, misunderstandings of assignment requirements, or requests for extensions or revision opportunities. Decide in advance for each assignment whether certain types of technical issues are evidence that the student has not met the learning objectives or that the student has exhibited a lack of professionalism.	In your syllabus, include detailed policies regarding technical glitches and equipment malfunction. On the first day of class, discuss the difference between avoidable and unavoidable tech issues, and emphasize that avoidable problems are unprofessional and do not merit leniency.

We recommend analytic rubrics because they help students understand the relative importance you place on these criteria. With their impartiality and specificity, analytic rubrics boost student confidence as they approach the assignment, show students where they have room for improvement when the graded assignment is returned to them, and ensure that you can still helpfully critique even a dazzlingly original, attractive, or technologically sophisticated project. If the prospect of assigning point values to predetermined categories is what bothers you, we urge you at least to draft a holistic rubric, which will help you clarify your expectations to yourself and then communicate them to your students.

Competencies: A Language for Indicating Success

Now that you know what a successful rubric needs to communicate to students, you will need to decide how to indicate the degree to which each criterion has been met by a particular piece of student work. One assessment

style that may work for you is the "competencies" approach, which is used in the workplace as well as in educational contexts. In their essay "Acculturation in the Digital Humanities Community," Geoffrey Rockwell and Stéfan Sinclair have helpfully adapted this general approach into a system appropriate for DH. Rockwell and Sinclair define competencies as being "used to describe *what students can do*, not what you are going to teach" (187) and "to *describe outcomes as behaviors* … in accessible language" that students will easily understand (188; emphasis in original). They stress that this language of competencies, in addition to helping instructors "imagine authentic assessment activities" (188), can help students articulate their skills as they seek jobs after graduation or apply to graduate programs.

Even more helpfully, Rockwell and Sinclair distinguish three types of multimedia competencies: technical competencies, academic competencies, and other competencies. This final category includes social, theoretical, and applied skills, such as teamwork, interdisciplinarity, and awareness of broader theoretical or social issues. The first category, technical competencies, is further broken down into "core" and "elective" competencies; there are many ways to distinguish core from elective competencies. For example, you might decide that a certain skill or goal is necessary and must be exhibited in particular ways (the student must use a certain platform), whereas another skill is less significant or can be demonstrated in multiple ways (the student has a choice of platform). Alternately, you might separate the mastery of a technical skill in the abstract from its execution in an actual assignment or digital context (e.g., being able to *make* a Google Map vs using it to create a compelling argument about trade in ancient Phoenicia or the importance of the Thames in literature set in London). Finally, the dividing line between core and elective competencies might separate goals that each student must meet versus elective goals that students may choose, depending on their interests.

When you write up or verbally explain these competencies to give to your students, avoid giving the impression that you are judging whether or not *they*, as individuals, are "competent" or "incompetent." Doing so may

exacerbate students' anxieties about technological skills. Beyond the question of managing students' emotional responses to your assignments, though, judging the work instead of the student is important because DH is a very project-oriented, collaborative field: stress that it is the output, rather than a particular individual, that displays evidence of competency. Specify the degree to which the work submitted for evaluation displays or enacts these competencies. You can either indicate that, for each skill, the work is "competent" or "not yet competent," or you can judge it along a continuum, rather than a starkly binary system.

In this case, you would select "sophisticated," "competent," "partly competent," "marginal," or "not yet competent." A simpler set of these options would be "excellent," "competent," and "needs work." We suggest that you select either the five-option or three-option continuum based on how many categories of evaluation you have specified; if you are judging quite a few skills, use the simpler, three-tier vocabulary; if the assignment is focused on only a few skills, use the more nuanced, five-tier scale. Though the sample rubrics in the sample assignment sheets we supply in the Web Companion direct the instructor to weigh student effort into the final grade, competency-driven evaluation does not always give credit for trying; if you decide not to include effort in the grade, we suggest that you offer students a chance to revise the effort and submit it for reevaluation. This is, in fact, one good reason why competency-driven evaluation prefers using the phrase "not yet competent" instead of "incompetent," and why we emphasize that grading should be an iterative, process-oriented activity (described further later on in the chapter). To avoid putting yourself in a situation where you are spending a great deal of time grading revisions, set restrictions; each student can choose only one assignment per semester to revise, stipulate that only assignments below a certain grade may be revised, or set a firm deadline for revisions (such as a week after the initial submission has been graded).

You could also try a simple number system, rating the effort from 0 to 4, with "0" meaning that the work displays no signs of competency for that criterion and then proceeding in proficiency until "4," which represents the most successful work in that criterion. No matter what labels you use to

describe a work's competency in a particular skill, make sure to describe in detail the properties that will be characteristic of works that meet each standard (e.g., what it is that makes a work proficient, competent, partly competent, marginal, or not yet competent in each category).

Involving Students in Evaluation Processes

One of the most important ways to ensure that your evaluation practices are working is to communicate clearly and frequently with your students throughout the process. Just as you yourself might harbor anxieties about introducing new digital assignments into the humanities classroom, your students might also share these worries about how their lines of code or their web exhibition will be evaluated in relation to the kinds of essays and assignments that they're accustomed to from other courses. However, if your students understand thoroughly how you are evaluating them, they will likely feel much more comfortable. Furthermore, if they actually contribute to and suggest evaluation criteria, they will feel even more confident about where they stand. By making your grading policies clear, and by sharing them openly with your students, you can embolden them to be open about evaluation and reframe assessment as a process rather than a punitive judgment.

In addition to the beginning of course survey we recommend in

Chapters 2 and

11, which can include questions about students' prior academic experiences and interests, one of the most powerful ways of ensuring that students feel they've been graded fairly is to give them some agency in determining the criteria by which they are evaluated. There are many ways of soliciting this feedback from students, but often the most effective way of producing grading standards is simply to hold a class discussion after you introduce course assignments. For advanced students, or for assignments toward the end of the term, you may be able to create an entire grading rubric "from scratch" collectively. However, in many cases, rather than opening up a general discussion about how students would like to be graded, without giving them any template or guideline to work from, it will be more productive to present students with a draft set of grading criteria. Explain your rationale, and then invite them to share their questions, reactions, and suggestions. By way of such a conversation, you can move collectively from a basic, skeletal model of evaluative criteria, which you yourself have created and approved, to a set of standards that are communally approved and revised but based on your core criteria and vision for the assignment. This option does afford students a good deal of agency in the assessment process, so it may be best to use this option at the end of the term (after you have already set the tone for evaluation) or for upper-level classes (so that the students are already enculturated into your department's expectations for majors).

If you are uncomfortable with this level of student involvement in your grading process, you may, instead, distribute your finalized rubric and then show students examples of finished work: existing academic Tumblr history projects, student maps of *The Sign of the Four*, or analytical essays based on word clouds or visualizations. Systematically discuss each section of your rubric and instruct students to grade it using your standards, asking students to put themselves imaginatively into the instructor's shoes. If you do like the idea of collectively determined assessment, you can ensure that the conversation is not a free-for-all in which students take advantage of your willingness to incorporate their suggestions by knowing in advance the aspects of assessment for which you are willing to show flexibility. Ensuring students' investment in assessment does not require that you adapt their every

suggestion. Breaking down the elements of assessment may help you identify which elements you are willing—or, more importantly, *unwilling*—to negotiate.

Thinking beyond the Rubric

Once you have written a few well-defined rubrics, you will be able to tweak them as needed to make grading for your current and future classes simpler and faster. This should reduce the anxiety and mystery of grading DH assignments. However, this does not preclude developing teaching philosophies that are inspired by theoretical or philosophical concerns as well as empirical and practical matters. And, if we have not convinced you that rubrics are right for your classroom, you may still be wondering about more general approaches to evaluation. We recommend thinking about three concepts: iterative learning, process-oriented evaluation (sometimes graded through a portfolio submission method), and multiliteracies. Depending on your preferences, these can be used either as a supplement to or as a replacement for rubrics.

Iterative learning emphasizes that education is a never-ending process. Even when a particular assignment is completed, the skills learned to complete it do not (and should not) become irrelevant for the rest of the course or for their college careers. Repeating techniques, platforms, and skill sets from one activity and assignment to another can emphasize lifelong learning—especially if you carefully determine the order of assignments so that they build on one another organically. Each learned technique should be ideally embedded into subsequent tasks, allowing students to practice and repeat operations so that they will remember them well past graduation. What does this mean for evaluating student work? It implies process-oriented evaluation, which focuses on what the student has accomplished over the course of completing the assignment. For example, in process-oriented evaluation, you would devote the lion's share of your labor giving students

detailed, written feedback during the proposal and draft stages of an assignment, thereby giving them the greatest opportunity to improve their work before its final submission. Also, give *some* credit for continuing to incorporate skills from prior assignments and units; it does not have to represent a large proportion of the grade, but it should be enough to emphasize the significance of building on prior skills.

Another concept that will enrich your evaluative processes is what Tanya Clement has called "multiliteracies." Defining multiliteracies as diverse modes of learning that are all "skills that require critical thinking, commitment, community, and play" (387), Clement maps out learning outcomes that can shift our criteria for evaluating student work. Drawing from the work of Henry Jenkins, Cathy Davidson, and others, Clement provides a helpful list of multiliteracies that includes participation, collaboration, simulation, performance, networking, self-knowledge, ethics, discovery, and assessment (385–6). Rather than focusing narrowly on particular "deliverables"—polished, complete projects that will persist over time—focus instead on the valuable multiliteracies that you want your students to achieve to destabilize our norms of what constitutes student success. For a simple way to incorporate this value into the grading rubric, as shown in Figures 7.1 and 7.2, reserve a proportion of available points in the "other competencies" category for acknowledging some of these multiliteracies. Tailoring this portion of the rubric to individual students is easy: simply list many of these multiliteracies and indicate that students may satisfy this requirement with a certain number of these multiliteracies. To allow students the maximum flexibility, require no more than two or three categories to fulfill this aspect of the assignment.

DH often focuses more on the process of building a tool or creating a resource as much as (if not more than) the eventual outcome or product. This process orientation translates beautifully into the classroom; our students can benefit from exposing and analyzing the processes of their own learning sometimes just as much or more than they benefit from producing crystalline prose to fit a standard essay structure. For your students and for you, an assignment that doesn't quite go as planned, or a tool that doesn't work, need

not correlate at all to failure in evaluative terms. As long as you and your students can document and explain the process and critically assess the value of the assignment, you will have found, as many DH scholars have found, a new kind of success. Emphasizing process over product ensures that you (and your students) foreground what your students have learned, rather than what they have not.

In general, all the approaches listed here for assessing student work affirm the value of the broader digital skill sets that you are introducing to them. After all, your primary goals may be to enhance your course content or improve their disciplinary knowledge, but you will find your students becoming more excited when they realize that these skills have a variety of conceptual and practical uses. Where possible, inform them of other applications for technologies that they are using in your classroom, whether these apply to their personal lives, to their professional goals, or to their other courses. Conversely, ask students to identify skills they have learned in other courses or as a part of their own extracurricular experimentation, and to apply them to assignments in your course. As suggested earlier, if you do not think it is appropriate to require these multiliteracies as objectives for a particular assignment, then some of these learning objectives could instead be counted as a part of a student's attendance and participation grade.

Coping with Failure during Assessment Periods

Because digitally inflected assignments are often complex and rely on technologies that are not always intuitive, reliable, or well documented, you may find yourself having to help students cope with failure more than you normally would. Sometimes, students do not allot themselves enough time for completing the assignment, even if you have emphasized that their time allotment for any assignment should *always* include room for contingencies, whether it's brushing up on the rules of a citation style they learned two years ago, proofreading a poorly written paragraph, or troubleshooting a

technological problem. This is a relatively simple case, as your normal late policies should serve well in this situation. Yet there are often unforeseeable problems with DH assignments, so we recommend reassuring students that digital failure does not necessarily equate to evaluative failure. We evaluate student work by a number of criteria (which should be clear from your rubric), only one of which is the mastery of a particular tool (and in some cases, even that could be replaced partly or wholly by the student's understanding of how the tool works and what it is meant to accomplish). Of course, beyond the structure of assignment grading, another way to acknowledge effort and improvement is to consider it as a part of the attendance and participation portion of a student's final grade. And for many students, it will be enough if you write a few positive remarks at the bottom of your grade sheet, send a short email congratulating a student for improvement, or, as they arrive to or leave the classroom, quietly praise them for their effort as well as their successes.

If you're looking for more concrete advice for what to do if a student simply does not present a complete or working project, you have a number of options. First, the student could be given a generous extension, one long enough to work out all the wrinkles. If time is of the essence, the student could narrativize their experience in a substantial written paper, which you would grade as you would a normal essay. This paper might only reflect upon what they learned and what they still need to learn about; it could also require secondary research concerning the technology and/or course content being evaluated in the assignment. If you have stressed the importance of saving and documenting your work (e.g., through screenshots, ReadMe documents, or concept maps that illustrate the student's workflow), your students should be able to salvage some of the project and be able to reconstruct what went wrong.

Sometimes, another type of failure—your own—can sabotage digital projects. Experimentation with DH will sometimes lead to a confusing or ambiguous assignment description, to a rubric that does not fully credit students for the efforts they thought were most important or laborious, or to an assignment that becomes nearly impossible once a tool disappears or

updates beyond your ability to adjust the assignment parameters. Richard E. Bond, in describing his own pedagogical failures, concludes optimistically about our ability to make our failures teachable moments for students and ourselves:

> Demystifying and diagnosing such failures can help students to improve their own work; not only can they see such failures are part of the educational process, but they can also think through how to overcome them, certainly a marketable skill. Happily, sometimes spectacular blunders lead to serendipitous results, and so I hope to keep failing, repeatedly, in the years to come. (par. 13)

We agree wholeheartedly with this approach. Modeling resilience—the ability to bounce back from failure—is one of the most valuable lessons we can impart to our students, even though being vulnerable in front of them is uncomfortable.

You might also face a different sort of "failure" as you grade: the inability to write a perfect rubric or set up a perfect grading system. Barbara E. Walvoord and Virginia Johnson Anderson exhort us not to worry too much about this; they advise us to "give up false hopes of a perfect, simple system. Accept that the grading system will have flaws and constraints. But focus on using the power and complexity of the grading process as a tool for learning in your classroom" (10). As a result, you should "establish the clearest and most thoughtful criteria and standards" while contextualizing your "judgment within the context of your institution, your students, and their future employers." Rather than fret endlessly about a particular assignment, so long as you have carefully established standards, all you must do is "[s]pend enough time to make a thoughtful, professional judgement with reasonable consistency, then move on" (11). No matter how carefully we have set up a rubric, grading calls for a certain amount of flexibility; although we should cleave closely to our pedagogical values, recognize that there are many ways for students to meet those objectives. That way, you will not risk particular students feeling that the results they *did* achieve went unappreciated—to a degree that their motivation will suffer in their subsequent course work.

We have found that clearly communicating precise goals and grading standards long before the due date minimizes student disappointment. Furthermore, assuring students that you believe in iterative learning and engage in process-oriented grading should help them place any single "low" grade into its proper perspective. Most of the time, if you express your own excitement for the possibilities for new knowledge inhering in DH approaches, this enthusiasm is catching and will help students focus on the internal rewards of the assignment. As Michael Wesch explains, DH provide

> new opportunities for us to create a community of learners with our students seeking important and meaningful questions. Questions of the very best kind abound, and we become students again, pursuing questions we might never have imagined, joyfully learning right along with the others. In the best case scenario the students will leave the course, not with answers, but with more questions, and even more importantly, the capacity to ask still more questions generated from their continual pursuit and practice of the subjectivities we hope to inspire. (76)

Foregrounding these subjectivities and the question-asking practices you want your students to learn can thus provide a powerful guiding light as you assess nontraditional assignments. Still, if none of these options make you excited to face your first batch of DH projects, and you would like to pair nontraditional grading techniques with your nontraditional assignments, consult the Further Reading section for resources regarding contract grading (Davidson), peer-calibrated grading (Anderson), upgrading (Gibbs), and single-point rubrics (Gonzalez).

Conclusion

Grading is a serious matter that deserves careful consideration, and this is especially true in the case of DH, a field that champions experimentation to the point that it tolerates certain types of failure while nonetheless holding high standards for work in the field. We can therefore find ways to

circumvent the punitive aspects of assessment—that is, the sense that grading is a process of finding fault. We have also recommended in this chapter that, in the case of process-oriented evaluation, you should also ensure that in-class activities and homework assignments should count in a student's final grade, ensuring that their practice "counts" in a way that is tangible for the student because you have made it clear where it will appear in their final grade. We have also suggested allotting credit for some kind of reflection, whether it comes in the form of a short paper appended to a project, a class discussion, a one-on-one interview during office hours, or a survey students take after each assignment has been turned in. Finally, we have recommended acknowledging effort in some way, even if you do not believe these should contribute directly to the grade for that particular assignment. Above all, remember that if the points for an assignment truly reflect our pedagogical values, carefully apportioning point values will be an affirmative process rather than an arbitrary one.

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8

Teaching Graduate Students

Though many of the assignments and activities detailed throughout this book are appropriate for teaching students at all levels, this chapter addresses the specific demands of teaching graduate students. Here, we suggest approaches that can meet these students' interests and needs in their coursework and beyond. Not all instructors work with graduate students, but if you do, you have probably noticed that more and more master's and doctoral students are seeking training in digital methods, while others are nevertheless interested in gaining digital skills relevant for research and pedagogy. Many students believe that "doing DH" (digital humanities) will improve their job prospects. The validity of this belief is difficult to assess one way or the other without knowing individual circumstances; critiques have been leveled at DH for pouncing on the market-applicable value of technical skills and thereby contributing to the "neoliberal takeover of the university" (Allington et al.). However, we believe that, from a graduate student perspective, wanting to find stable, satisfying, nonexploitative employment is a perfectly valid reason to explore DH. And it is undoubtedly true that more job ads specifically request DH skills. As a result of these pressures on our students, we believe it is our duty as mentors to ensure that, as students acquire desirable skills, they integrate DH into their coursework, teaching, and

research as organically as possible. This chapter therefore focuses on helping graduate students learn DH-related skills in order to support and supplement their scholarship in their content fields and to help them become efficient and well-informed researchers and teachers.

The Role of Technology in Twenty-First-Century Graduate Education

Another important reason to ensure that your graduate students are learning skills related to DH is that many of the technical requirements of doing research, of publishing scholarship, and of teaching are going to change even further in the coming years. Even if grad students are not interested in DH as a discipline, per se, there is a strong likelihood that their academic futures will require some digital competence. As Sidonie Smith has argued, "*academic humanists are all digitally assisted scholars*," as the way we do our work as scholars means that our dependence on digital technologies is "as true for humanities scholars who describe themselves as doing traditional kinds of humanistic scholarship as it is for those identifying as digital humanists" (45; emphasis in original). Yet, in many institutions, this kind of training is not generally a formal requirement for graduate degrees. If you do find yourself working more closely and formally with grad students in a DH context, whether by joining a program or beginning a degree, certificate, or track, there are many good resources (see McCarty; Rockwell and Sinclair; Spiro).

In addition, your graduate students might be interested in DH as they begin their careers as university teachers. In this case, mentoring student teachers using a combination of your personal experience and insights learned in other chapters in this book will probably do the trick. As grad students become more familiar with DH pedagogy, you will likely be liaising between the student and institutional offices and representatives. Most likely, along the

way, you'll also find useful resources, methods, and insights you otherwise would not know about.

Indeed, as we emphasize in this chapter as a whole, much of your time spent advising graduate students will consist of helping them locate resources inside and outside of your institution in order to support their DH-related endeavors in their research and teaching. Even though you'll sometimes get lucky and mentor graduate students who are interested in the exact same technologies you are, most of the time, students will approach you with their own particular digital project in mind, whether or not you are already familiar with that particular digital skill or tool. As with undergrad teaching, you will want to emphasize tools that are free of cost, as well as ones that are either (1) relatively low demand in terms of any time and energy or (2) worth the time to learn it because the student anticipates that they will continue to use it for many years to come. Sometimes the time it takes to learn a new tool or a computing language simply isn't worth it for a particular research question, so evaluating whether a DH resource will save you time or will cost you time is an important step before you commit to a graduate DH project. If you are a graduate student, the same considerations using your own time and resources judiciously will certainly be relevant to you, and we hope you will find this chapter a useful guide to your own training.

Graduate Students versus Undergraduate Students

If you are fortunate enough to be working with graduate students, both you and the student you advise may enjoy broader, more varied, and lengthier, involved opportunities than undergraduates and their advisors, but these opportunities entail greater responsibilities for students and faculty mentors alike. This is one reason why we emphasize helping students find the

resources and opportunities that will provide necessary digital instruction, rather than directly providing that instruction ourselves. We insist that you must protect your time—how you must establish sustainable relationships with graduate students—precisely because advising DH-related coursework and research can be so absorbing. Unlike undergraduate students, whose commitment you can generally only depend on in semester-long increments, graduate students can commit to longer projects that span beyond one semester and may in fact become a cornerstone of their dissertation and job hunt. Furthermore, whereas many undergraduates only feel comfortable with DH work in the context of large groups, graduate students are typically more open to solo projects.

If a student's need for consultation exceeds what you are able to offer as the student, point students toward collaborators beyond your department, making sure to pave the way for them by facilitating introductions and writing any necessary reference or recommendation letters. Moreover, because most graduate programs require an "outside member" of a doctoral committee, it can be especially effective and convenient to select an outside member who can offer consultation for DH needs. And graduate students are—at least in comparison with undergraduate students—more likely to engage in self-training, thereby releasing advisors from some of the responsibility of minute-by-minute instruction, though not of general mentorship.

Do I Have to Learn to Code (and Which Language)?

Before we discuss how to incorporate DH in various kinds of graduate courses, we want first to address two common questions that graduate students have as they consider whether or not they should dedicate time to DH, namely, "Should I learn to code?" and "What coding language should I learn?"

The short answers are, “Yes, at least a little,” and “Probably Python.”

To the first question, the slightly longer answer is that the student must have the courage, drive, and time to learn new technical skills, particularly ones that seem to activate different parts of the brain than those lit by their home discipline. The good news is that, like writing, coding is a skill that almost everyone can learn with practice and support. Not all DH work requires original programming per se (by which we mean the scripting of executable commands within a formalized language), but much of it requires knowing how to encode (the annotation of text with tags in order to create a browsable website or digital object) and how to analyze computer programs (to be able to read code and understand what the commands are doing). It is also important for both you and your student to gain enough technical understanding to converse with others beyond your own discipline (e.g., to be able to describe and “translate” to a person with a more robust coding background what precisely your student is trying to accomplish).

To answer the second question (which language, program, or platform to learn), the student needs to know clearly *why* they are interested in DH and to articulate specific projects they want to embark on. Once they have identified a goal, such as creating an interactive map, visualizing thousands of tweets, constructing a personal website, or critiquing the way social media platforms use machine learning, then they should choose the program or platform that can achieve this goal without providing too many other, distracting features. Ideally, it should have a large user base, robust documentation or user support mechanisms, or some other form of support from within your institution that they can rely on. Open-source programs are preferable because they are transparent, efficient, and cost-effective, but keep in mind that they may have a steeper learning curve than more mainstream software packages. If the student wishes to dive deeply into DH—to become a DH scholar, rather than, say, occasionally use it to support a more traditional research and teaching agendas—they will need, at a minimum, to learn how to use the command line, to select and become proficient with a plain-text editor and a citation manager, to become familiar with XML, HTML, Markdown, databases, and CSV (comma-separated values) tables, and to

learn good file management techniques. We have also provided a few basic recommendations for particular software packages useful for graduate students in Table 8.1.

TABLE 8.1 *Platform and Program Recommendations for Graduate Students*

Type of Program	Best for Beginners	DH Standard	Open Source
Plain-text editor	Visual Studio Code	Sublime Text	Vim or Emacs
Citation manager	Endnote	Zotero	Zotero
Content management system (often used to build websites)	Wordpress.com	Omeka or Drupal	Wordpress.org, Omeka, or Jekyll plus GitHub
Mapping engine	Google Earth or My Maps	ArcGIS (and variants like StoryMaps for narrative maps)	QGIS
Database	FileMaker Pro	MySQL	MariaDB
Command-line interface	macOS Terminal/Windows Powershell (the interface that comes preloaded in your computer)	Fish or other Unix shells (i.e., experiment with other shells than your machine's default one)	Terminal emulators like KiTTY, AlacriTTY, or iTerm2
Scripting language	Python (for a learning-friendly environment, try Jupyter Notebooks or Anaconda)	Python (for a comprehensive Python library, try the SciPy ecosystem)	Python

To reiterate, if the student is looking for an all-purpose coding language that will be relevant for much of the DH community, their best bet is Python. They should seek opportunities to learn Python in a coding summer school, in an online program like the nonprofit Khan Academy, or in classes in your institution; they should also become comfortable with using GitHub to copy, share, and edit code, as well as using Stack Overflow to seek answers for particular coding questions.

Incorporating DH into Graduate Coursework

At the coursework level, it's crucial to know the strengths and priorities of your own department from the outset. Your department may offer a master's degree, doctoral degree, DH certificate, or a recognizably technology-centered or media-centered stream of courses, but more likely you will be on your own in this realm. Accordingly, you will normally not be teaching a grad-level course on DH in general, or on DH in your particular field (if you are, refer to the Web Companion materials for links to sample syllabi). The rest of this section assumes that you are incorporating DH into graduate courses in your own area, rather than teaching a DH course as such.

In-Class Activities

As in undergraduate teaching, in-class activities have the lowest stakes since they have the least impact on the course as a whole, so they present an excellent opportunity for experimentation with digital tools.

Chapter 4's activities are all adaptable for graduate student use, but expect students to catch on more quickly, to be more skeptical about their value, and to request meetings during office hours to solicit instruction about how to pursue the activity in a more formalized manner. Furthermore, at the graduate level, the use of these kinds of exercises can and should lead to critical or theoretical discussions about DH. Consider leading a discussion about the disadvantages of the tools and techniques you are teaching them. You will also want to connect the activities we've outlined in this book with more sophisticated research projects and goals in graduate courses and to point to opportunities (as we discuss later) for further training in these areas, should the students wish to enhance their skills further after taking your course.

Short Assignments

Short assignments are relatively low-stakes ways of incorporating DH elements into your course, as they do not inherently disrupt the more conventional emphasis on a longer research paper. Short assignments can include anything from having students create a digital edition of a single poem, use out-of-the-box mapping tools to geolocate places in an historical map, or create short video presentations. Here again, much of what we have outlined so far in

Chapter 4 will work, although you may wish to focus your short assignments more on specifically scholarly standards, such as texts encoded following the guidelines of the Text Encoding Initiative (TEI) or books described using the Functional Requirements for Bibliographic Records (FRBR) library standards. Short assignments are another realm where connection with an existing DH project can be mutually beneficial and exciting for your students. We emphasize the importance of avoiding exploitative student labor in

Chapter 9, but the short grad student assignment can be a form through which your students can benefit from experience with a DH project just as much as the project can benefit from their work. In the best-case scenario, such work may lead to a formal assistantship, paid summer work, or a long-term project related to their dissertation. You needn't have personally created a project yourself in order to engage with one or to introduce one to your graduate students: if there is an active project in your specific area of research, the project team may well be open to working with you and your students to design a short assignment that would fulfill both your pedagogical goals and also some objectives that connect back to the broader DH world.

Digital Project or Seminar Paper?

A graduate student may approach you for permission to create a digital project instead of a seminar paper. You may, with some justice, feel reluctant to let go of the seminar paper format, or students may feel anxious or guilty about asking. This is understandable; as Greg Semenza, exploring the attraction of seminar papers from a graduate student's point of view, explains,

> Because the seminar paper both allows you to demonstrate your knowledge of the relevant course material and prepares you for the difficult tasks of dissertation writing and scholarly publishing, it might accurately be understood as the *sine qua non* of your academic training. (91)

Nevertheless, we urge you to take a moment to estimate how many seminar papers the student will be producing before fulfilling degree requirements. Considered within a larger ecosystem of graduate work, it may be a wise—or at least acceptable—trade-off to sacrifice one traditional paper for a less-traditional format.

At the same time, if the student has not yet produced a single written artifact that resembles a journal article in their chosen subdiscipline, and if you are teaching that student a course in that subdiscipline, the student should hold off on alternative formats for another time. Digital projects will

generally divide the students' labors between efforts regarding the research question and the efforts required to wrangle the digital aspects of the project. Again, we feel that this trade-off is generally worth it—particularly if the student can reuse these skills for teaching, professionalization, or future projects—but if the student desires a "traditional" academic post in a particular humanities discipline, digital projects should *supplement* rather than replace other markers of academic mastery. This is true particularly because the technical aspects of a project tend to take a lot more time and effort than originally estimated, therefore endangering that necessary interpretive stage that takes data or results and crafts a sophisticated scholarly argument.

As a result, if you are unsure whether to support a student's request to convert an assignment to a DH one, the safest choice is a hybrid project paper. In this case, the student produces a traditional scholarly "deliverable" (a paper, bibliography, review, or chapter) but supplements it with a digital component; provides datasets or visualizations as evidence for a traditional argument; or delivers that traditional argument using a digital platform. This may prove laborious for the student, but it is a low-risk way to incorporate DH into their coursework. To reduce the extra labor, lower the word count of the written component, let the student use a platform they already know, frame their work so that it also counts as another assignment required in that course, or help the student link this effort with a grant, fellowship, or other professionalization opportunity.

Service Courses in the Graduate Curriculum

If you teach graduate courses, you know that for every specialty course you are allowed to teach, you will be asked to help students fulfill their basic degree requirements by teaching a service course. Common service courses include classes on pedagogy, professionalization, and publication. You might ask students in a pedagogy course to design a simple digital activity for their students and then "test" out this activity on their fellow graduate students during your course slot. Encourage them to use the principles in this book

(for instance, include a reflection component and scaffold the activity to minimize students' fear of failure). Professionalization students might construct a basic professional website for themselves using Humanities Commons, Wix, or Weebly; they might also practice answering interview questions about the importance of teaching digital literacy or using DH to do public humanities outreach. A publication course could require students to create a visualization to illustrate the argument of the article they are revising for the course. You might also ask students to experiment with citation managers.

In addition to these common service courses, each graduate program generally has one or more courses in research methods (such as historiography in history, cultural methods in anthropology, theories of gender in women's and gender studies, quantitative methods in psychology or communications, bibliography or book history in literature, and components of political theory in political science). Because methods classes generally target newly enrolled students, any digital component should respect their neophyte status and closely follow your course catalogue's stated course objectives. Usually, the link is clear: how do digitally savvy, established academics in your field use digital technologies to pursue basic research methods? In her graduate literary research methods course, S teaches students how to query research databases and library catalogues in a professional way, how to interact with digital archival materials, how to digitize primary texts (which includes digital imaging and optical character recognition through smartphone apps and GoogleDrive, simple textual encoding using Markdown, and version tracking through GitHub), as well as how to use citation managers and plain-text editors. Any activity or assignment that does not simply model how to do the work of your field with machines should be simple, optional, or collaborative. More challenging demands can be made of students further in their progress to degree. These advanced students might also design digital assignments to support their field exams, theses, publications-in-progress, or upcoming job interviews.

DH Advice for Graduate Students and Mentors at Every Stage

Although we are often excited for graduate students to be involved in DH projects for a variety of reasons—they allow the students to interact with their subject matter in new ways, they open up new grant or fellowship opportunities, they help to open up exciting new futures for the humanities—it must be acknowledged that it takes quite a bit of time to develop digital skills and to perfect digital assignments. And because most graduate students are operating under a very quickly ticking clock, such effort represents a real opportunity cost to the student. Despite this risk, we ultimately believe that judicious involvement in DH will enhance many graduate degrees. Making plans for DH work can, indeed, work *with* this ticking clock rather than against it, if these plans complement the students' changing concerns and duties at each stage of the degree program. In Table 8.2, we offer advice to ensure that DH-related efforts at any stage of the degree will bolster, rather than detract from, the student's progress through the degree program.

TABLE 8.2 *Incorporating DH into Graduate Student Milestones*

Milestone	Advice for the Student	Advice for the Supervisor
Recruitment	Find faculty members who work on digital editions, websites, bibliographies, or other initiatives, whether or not they are in your subfield.	Express your interest in nontraditional coursework and theses and willingness to help students find resources to teach them DH skills.

Milestone	Advice for the Student	Advice for the Supervisor
Master's Thesis	Reach out to your thesis director and department head *before* setting your heart on a particular DH-inspired project and think about a "Plan B" project that still incorporates your DH interests but fits the requirements of your department and supervisor.	Adjust your expectations for MA theses based on the student's desired career trajectory rather than your own, but be willing to express hard truths about what your department will accept.
Oral or Written MA Exams	Experiment with various media platforms for sharing your exam experience with others (or for taking the exam). Rehearse beforehand, if possible in the same room you will be in.	Articulate the degree to which you will accommodate student experimentation and/or you can provide tech support for nontraditional exam formats.
PhD Application	Identify faculty who can advise you in your content area as well as those who can help you in your digital endeavors.	Elucidate the individual characters of the departments the student applies to, especially in relation to DH-friendliness.
Committee Formation	Seek outside faculty members in computer science, GIS, IT, new media, engineering, or library faculties.	Explain to outside faculty members any disciplinary norms that keep them from understanding the students' work.

Milestone	Advice for the Student	Advice for the Supervisor
PhD Exams: DH as Topic	Read widely and with a keen eye for rhetoric and ensure that you keep up-to-date on the latest conversations in DH. Participate in these conversations as much as possible.	Become familiar and comfortable with the secondary literature and the DH communities we discuss in

Milestone	Advice for the Student	Advice for the Supervisor
		Chapter 9 to help the student form a reading list that's current and thorough.
PhD Exams: DH as Method	Find out what will be different, if anything, about the format and assessment of your exams. Practice beforehand.	Discuss evaluation criteria for DH-related work with your department chair in order to ensure that standards for assessing DH projects are fair.
DH as Supplement to Dissertation	Ensure that what you're taking on for a digital project in addition to your dissertation is not too much work to complete in the time that you have in your program.	Help your student to keep workload reasonable by suggesting limits to the scope of projects and by defining clear outcomes and standards for evaluation. These should be checked with your department's procedures.
Nontraditional Dissertations	Make sure that you have a clear outline of what you will produce for your PhD and make sure that that outline has been created in consultation with your supervisor and the department. Consult with other students in your program who write nontraditional dissertations.	Ensure that your student's nontraditional dissertation will be accepted and recognized by the department and the university and that procedures for submission of all components are clear in advance.

Milestone	Advice for the Student	Advice for the Supervisor
The Defense	Double, or even triple, check any tech you use in the defense. Be prepared for questions that go beyond standard ones, particularly queries about the details of your workflow and requests to defend your integration of technology. Have a post-PhD plan for your work (including related publications and a sustainability plan for a digital project).	Check to make sure that any tech needs (projector, computer, etc.) are available in the room for the defense. Make sure that all present parties (including the chair and any external examiners) understand the nature of the dissertation and are prepared for the experience.
Leaving the Institution	Make plans to migrate your university email and cloud storage to accounts that can move with you, as your university will close them sometime within the year after graduation. Determine if any of your projects stay with your current institution or can move with you. Find a new way to access any software you need that you access through your current institution.	Learn about your institution's approach to long-term project hosting to advise the student about whether or not they can ask (or want) the university to sustain their project after they leave. Learn about your institution's approach to intellectual property to learn whether their digital projects are considered institutional property or are the students' own to continue as they wish.

Beyond the recommendations outlined in Table 8.1 regarding DH and dissertations (or theses), we want to offer a few more pieces of advice because the dissertation (or thesis) is the cornerstone of most PhDs. Whether the student chooses that a digital endeavor comprises the entirety of or only a supplement to the dissertation, the student's supervisor and committee members must fully support these efforts. Kathleen Fitzpatrick acknowledges this necessity in the *Chronicle of Higher Education*. In this piece, she recalls

a question-and-answer session during which a graduate student asked her if she should write a nontraditional dissertation:

> "Do the risky thing," I blurted, before my scruples intervened in the split second between phrases. My concerns went like this: I'm not her dissertation director; I don't want to create conflict in her progress toward her degree; I don't want to set up unreasonable expectations about what her department will actually support. And so my immediate qualification: "Make sure that someone's got your back, but do the risky thing." (par. 2)

Fitzpatrick reminds us that the onus is on the faculty member to support the student. We can afford to take some of the risk on our shoulders—and we should do so.

This does not mean you must agree to *any* project the student has in mind. You need to make sure, for instance, that you only agree to projects that you know can be supported and accepted by your department. If you and your department do agree that it is a worthy project that will help carry the student through their degree requirements and will contribute to their professionalization, then you may find yourself providing more support (or different kinds of support) than you would for other students. We have both ourselves been giving quite a bit of consultation time to students who have not asked us to be formal committee members. Although this means we cannot "count" this labor as formal mentorship on our annual reviews or CVs, we have found ways to classify this labor as ad hoc service for our departments. If you find yourself running out of time—or the knowledge—to mentor a student, consult

Chapter 9 so that *you* can find help in supporting your students.

External Opportunities

Let's take a moment to consider these internal and external support networks in the context of grad student mentorship, as the milestones listed previously do not exhaust the potential venues for graduate students to experiment with DH. Advisors should help graduate students locate appropriate opportunities for professional development. The simplest way to help your graduate student begin to plumb external opportunities is for you to lead by example—by sharing your external research activities—or by sharing your own research activities with them. Lene Tanggaard and Charlotte Wegener even advise, "If you want to keep the student in the research community, invite the student to be involved in your research endeavors, such as coauthorship, shared conference participation, and funding opportunities" (155). Of course, all of the activities we suggest in

Chapter 9, including conferences, workshops, training sessions, fellowships, and participation in grant-funded projects, are nearly as open to grad students as they are to faculty. The one additional point to make about them is that you as supervisor or mentor might have to connect students with these opportunities, write letters of support, or make introductions in order to help students make their way in the field. Joint presentations and papers, which are quite popular in DH, ensure that this mentorship works for you as well as for the student.

One of the most powerful ways you can help your students professionalize is to collaborate with them on publications. You are likely already helping your students by forwarding relevant calls-for-papers and calls-for-participation, by identifying coursework that could be worked into a publishable form, and by providing feedback on their writing. Within the humanities, which traditionally focus on single authorship, such mentorship is recognized in the form of a footnote or acknowledgements page. But much DH research looks more like the collaborative, multiauthored research of STEM and computer science (CS) fields, and it often makes sense to award second authorship to a mentor who has substantially contributed to the work. Perhaps you supplied the dataset that the student has crafted into a visualization, the project was developed directly as a result of a class you taught the student, or the student's research developed out of a grant or DH initiative for which you are the project manager. In fact, if the research is interdisciplinary and attempts to reach a CS audience, a second author will be expected, and sole authorship may pose a red flag during the peer review process.

Even within traditional humanities publication contexts, the name of an established scholar may make the difference in whether or not the piece is accepted or rejected. Successfully navigating these two different authorship cultures—one rooted in the single author, the other in collaboration—requires us to be conscious about the decisions we make about authorship. For C, if she is just providing feedback to a student, she does not pursue second authorship because the writing is itself integral and central to the argument. For the team of the Modernist Archives Publishing Project

(MAPP), in which C is a founding member, everyone has to be in agreement about the terms of authorship before a student's engagement or employment is pursued. A formal agreement establishes beforehand what labor equals what results. When mentoring her own graduate students, C's policy is guided by a single question: "What is the best outcome for the student?" Once a collaborative project is underway, and the terms of authorship have been agreed upon, follow the convention in the field of humanities computing, which calls for an authors' contribution statement—an explicit statement about who did what—to bypass any confusion about attribution that may arise in the future (such as when the student enters the job market or you are undergoing annual review).

Professionalization and the Job Market

Students who graduate with considerable experience in DH will come across to interviewers or search committees as particularly polished and skilled—so long as they know how to write and speak effectively about these experiences. Yet DH is not a magic wand that creates fellowships and tenure-track jobs. There are very few tenure-track jobs specializing in DH as such, for example, and even if some DH-related grant-funded positions may seem to be miraculous because a large grant suddenly generates new postdoctoral fellowships or project coordinator positions, "soft-money" jobs like these are generally short-term positions. As you mentor graduate students for professionalization—that is, readying them to transition from student to colleague by socializing them into the professional community they wish to join—knowing the history of DH as a field, together with the major projects, institutions, programs, and organizations related to DH, will help you and your student navigate these options after graduation. Delving into this deep history by reading accounts like Amy Earhart's *Traces of the Old, Uses of the New*, in addition to the more general job-hunt advice books listed in "Further resources," will allow you and your students to separate fact from

fiction and set reasonable expectations for the role DH can play in marketing the students' skills and accomplishments.

In the late 2000s and early 2010s, an explosion of publicity surrounded DH as a newly coalesced network of scholarly approaches stemming out of humanities computing. This spotlight on DH in both general-interest newspapers and magazines and in higher-education periodicals brought welcome attention to new scholarship but also spread some misleading information. Heated arguments about whether DH will save or destroy the humanities, as well as whispered stories of grant-funded wealth untold generated by DH projects also contributed to the aura of mystique that hangs around DH today. Knowing these controversies around DH—such as by reading Matt K. Gold and Lauren Klein's edited collection, *Debates in Digital Humanities 2019*—will help the student avoid unintentionally alienating a DH skeptic during a job interview or jumping unawares into a heated debate that involves a potential ally.

After all those somber warnings, let's share the good news: practically every DH activity is an opportunity for professionalization. The routine habits by which most DH scholars share their work and consolidate their academic identities—having a robust teaching portfolio full of exciting DH activities and assignments; knowing how to code or build tools and websites; traveling to conferences to present on projects they have worked on; creating digital maps, charts, figures, or visualizations—can all give your students an advantage on the job market. This is a field in which collaborative publication can also offer an ideal way for grad students to learn how to work with peer reviewers' comments, write articles that are up to publication standards, and learn from their more senior colleagues about writing and publishing processes. And, of course, entering the job market with some publications is imperative in a competitive environment. But keep in mind that even though publishing is crucial in academia, try not to privilege publication so much that the student does not create a well-rounded, professional identity.

This well-rounded identity includes the creation of a widely accessible set of online profiles: in other words, the creation of an "online presence."

To help students do so, Jeremy Boggs has argued that "any instructor using technology, in the class or out, should think of themselves as a role model for how those technologies can be used for responsible, beneficial goals" and advises all instructors to "be completely transparent with students" by sharing your social media accounts with students (81). Though Boggs privileges the value of "setting an example that students can follow," which allows them to be "more critical about their use of technology" (82), we also believe that it is important for graduate students' professionalization to think about their web presences. They can therefore learn from your own use of digital tools how you create an online professional identity and how that identity interacts with (or purposefully does *not* interact with) your personal identity. Getting your own digital ducks in a row is therefore likely to help your grad students figure out their own web presence.

It is a good idea, in other words, for each grad student to take the time to craft an online presence that is what they want it to be—that is, intentional, professional, and memorable. Students should know what comes up when search committees or journal editors Google their names, and ideally they should try to make sure that the search results on the first few pages include some indication of their academic work. Sometimes, as in the case of very common names, this will not be possible, which of course is also fine: no search committee will hold it against a person for having a common name. But if very little comes up in a search, or only a photo from the student's high school badminton championship or a victory in a state fair pie-eating contest, it's definitely worth augmenting the student's web presence to make those search results more attractive to prospective employers. Since your own web presence should ideally adhere to these principles as well, the following is advice that applies equally to you as well as to your students.

Here are a few basic ways of improving your Google search results, whether you are a graduate student or faculty member. First, no matter if you already have published or are currently preparing research for your first publication, sign up for a unique researcher identifier through Open Researcher and Contributor ID (ORCID), which will make your research more discoverable and will attach your publications directly to you, rather

than to someone else who happens to share your name. Otherwise, your own work may become someone else's web traffic! Next, ensure that you have an updated profile on your university's website, where possible. University websites tend to be well optimized for search engines, and they tend to be high-traffic zones. Maintaining a profile, even a simple one, is well worth doing if your institution allows you to do so. If you desire a more customized approach—which we recommend—create a personal website. It may be very simple (essentially, an online CV with your short bio, a picture, a list of publications, and a way to contact you) or more complex (containing all the factual data that a simple one has, but also enriched with digital project work, a blog, or other interactive features). A simple, free WordPress or Weebly site will suffice, but keep in mind that customizing these sites' templates and incorporating design elements you have chosen will attest to your digital skills.

Although your university and personal websites will be seen by searchers as authoritative sources, they will become even more highly indexed by Google if you link these sites to your social media accounts. Consider creating an Academia.edu profile, as this hybrid site bills itself as a social media platform for academics. Your Academia.edu account again might not include uploaded versions of all of your talks and papers, but even a bare-bones profile will boost traffic to your university and personal websites. Because of its close links to Google, Academia.edu is crucial for making sure that *you* will appear among the very top search results when people search for you and your work. Alternately, if your social media accounts are professional in nature and tone, consider making them public. Keep in mind that once you befriend or follow colleagues and peers on these sites, your usage of them will undoubtedly change. If you decline to connect your personal and professional digital presences, this is a completely logical decision. Just keep in mind that you will want to pay more attention to updating your university and personal websites more frequently, and you may also spend more time e-mailing colleagues and peers to keep them updated with your professional news. If you are a graduate student advisor, expect that students may come to you for advice about this matter, seeking guidance

for tailoring their style of social media engagement to match their own particular identity and professional goals.

Though it's important for grad students now to have a web presence of some kind (especially one that shows them in their best professional light), some caution is also necessary since negative material online can be just as detrimental to a person's candidacy as a sparse online presence. Perhaps it goes without saying that professionalism online, especially when it comes to social media, is a complicated matter. This can be particularly the case if grad students have preexisting personal social media accounts that are public and do not represent their professional identities as much as their personal ones. Ultimately, we believe that the additional exposure is well worth any real or perceived trade-off in privacy, but, of course, you should follow your instincts and maintain the boundaries that are comfortable for you. C, for example, feels more at ease as a minimal and private social media user. Others might feel more comfortable showing more of themselves on social media, which is perfectly fine. For example, S's Twitter persona is professional and focused on networking, but she likes to keep her Facebook profile very open, active, and personal, even though she has befriended professional acquaintances and colleagues. She is therefore quite careful not to say anything negative about her institution, students, and colleagues within and beyond the university (this behavior is probably the safest approach even if you do not befriend colleagues), and she has decided that, for her, this partial censorship is an acceptable sacrifice. Using Facebook and Twitter as two different "zones," however those zones are defined, allows S to use social media professionally but not let it completely overtake her digital social life. For all academic social media users, some level of self-editing is advisable, but this is not inconsistent with developing a unique persona or communicating (some) personal information.

Twitter is worth a bit more consideration, as it is widely used in the DH community. It is also the prime example of a medium in which formality and informality are continually in flux and are constantly brushing up against one another. This is an accepted part of Twitter culture, but it may still not quite be an accepted part of academic culture in all quarters for all generations.

Tweets that for one person on a job selection committee might seem like vulgar oversharing, for another might simply indicate charisma or a sense of humor. There are many ways of successfully navigating this thorny territory, whether by emphasizing the professional on a public account and keeping the personal locked, or by embracing the personal as a vital element of your public (and therefore professional) persona. This is an area in which we hesitate to give concrete advice; after all, what works stylistically for one person may not work for another. However, if your grad students don't use Twitter at all and would like to start (which is not a bad idea since it provides exposure to all sorts of opportunities and resources), refer to the Twitter primer we provide in the Web Companion (just search for "Twitter" or "social media").

Beyond the general advice applicable to any scholar on the job market, which is to create a polished and exciting set of job documents, to practice answering interview questions, and to cultivate a collegial demeanor different from that of a student's humility (see Hume 117–40; Semenza 195–280), DH-trained graduate students will have to cultivate a certain flexibility because they are likely to be interviewing in multiple fields. For example, appropriate jobs for a graduate student in history may include positions in the student's disciplinary specialization; positions that emphasize a broader period or theoretical approach in history; positions in public history; positions in DH that ask for specialists in digital history or public history; or nonacademic positions in museums, galleries, or government-sponsored research units. When producing job materials (such as a CV, cover letter, writing sample, teaching philosophy, and sample syllabi), the candidate may want to produce multiple versions, creating one set of documents for each particular type of job. Practicing for job interviews requires the same multiplication of efforts, unfortunately, as most job search committees must prioritize the needs of the department over any gut reaction to the candidate's overall scholarly identity or abstract ranking of the candidate's strength in research and teaching. Urge your student not to underestimate the discipline it takes to research each institution individually and to take the time to "brush up" on this information before each interview.

As an advisor, you should also emphasize that the student must tailor job documents—as well as their answers to questions during job interviews and behaviors during campus visits—to the specific requirements listed in the job ad and to the prevailing attitudes of the department (and of the institution's administration) toward DH. Being skilled in DH will not sabotage the candidate's chances at securing a job that does not ask for DH, but it might if the candidate turns conversations to DH at every possible opportunity when what the job committee really needs is to know how the candidate would teach a survey course or what shape their dissertation is in. What *will* strengthen the candidate's case is consistently, cogently linking DH activities to a compelling approach to pedagogy and to an innovative research agenda that is legible within the candidate's field and specialization. The student should also be careful to gauge the experience and knowledge level of the search committee and avoid technical jargon in cases where this kind of language will not be understood by—and will therefore alienate—the committee. A mismatch between the student's interests and those of the job committee may indicate that this job would not be the right fit, but this is no reason not to make an effort to take the temperature of the room, as it were, and respond sensitively to the cues given off by the search committee.

On the other end of the spectrum, if the job is advertised specifically as a position within DH, the candidate should be cautious of sticking too closely to particular disciplinary norms and subfield specializations. Instead, the candidate should concentrate their efforts on linking to approaches and questions that cut across humanist disciplinary boundaries. That sort of job committee will likely expect (and appreciate) dedication to a specialized research agenda, but the candidate should not let their passion for their dissertation dominate such an interview. Such passion should surface as evidence of a general dedication to humanistic inquiry and a dedication to scholarly research, not as a troubling sign that the candidate would prefer a job catered to their subfields. This is particularly true because many DH-centered jobs involve quite a bit of DH-related service, making it crucial that

the candidate knows how to communicate clearly with humanists in other disciplines or subdisciplines.

You have probably noticed that much of the above advice requires additional effort from the candidate. This is an unfortunate truth, and those who are in a position to advise graduate students should (in addition to linking students to external opportunities, as mentioned earlier) do all they can in conversation with colleagues and during their own service commitments to chip away at any lingering suspicion of DH or projects that seem nontraditional. In a blog post from 2011, Natalia Cecire similarly emphasizes that faculty must take on these labors on behalf of students and job candidates:

> We are talking about a shift in the institutional structures of the profession. And, senior scholars, this is not something that is happening to you. You are, after all, the ones on the hiring and tenure and promotion committees. It is a thing you are making—through choices that you make, and through choices that you decline to make. (par. 4)

We want to stress that, as a crucial component of the "choices" we make, supervisors should be willing to write multiple versions of recommendation letters for candidates whose strengths and interest lead them to apply to a wide variety of positions. Consult with the candidate in advance, asking them what types of jobs they will apply for, so that you do not have to create more than three or four versions of a "core" reference letter.

Finally, keep in mind that students who secure jobs with DH at the core of their duties will likely continue to ask for advice long after they graduate. S has found that whereas her nontech-oriented graduate students tend to check in occasionally to share conference or publication opportunities or ask about book proposals, her DH students check in more frequently with lots of questions about how to interact productively with tech-resistant faculty members and students, how to balance their DH projects with traditional research, and how to promote DH pedagogy and research at their new institutions. Cultivating this long-term mentorship can reap rewards for you and your department, too, as your current students would benefit from hearing

from your past students about what life is like on the other side. This is especially true because many of your students may pursue nontraditional careers, an important topic to which we now turn.

Exploring Alt-Ac Careers

Although the term "alt-ac" (alternative-academic) has received a lot of attention recently, especially in the face of a rather bleak job market, it is not a term or an idea that satisfies everyone. Some see the term simply as jargon that reframes administrative positions as suitable for PhDs. Others persuasively and passionately argue that these jobs should not be referred to as "alternatives" but should be considered alongside the supposedly "traditional" path of seeking tenure-track employment. Like the term or not, however, in DH particularly the idea behind the term "alt-ac" is gaining increasing importance. The opportunities that are available to students under this category can be genuinely exciting, so it is worth addressing here. Some common alt-ac jobs for humanities graduates include freelance software development, technical writing, academic publishing, grant writing, human resources (HR) jobs running social media accounts and company blogs, and positions in government agencies, nongovernmental agencies, and nonprofits. As S's graduate research assistant, Hoyeol Kim (who identified obsolete references in this book's first edition), has pointed out to us, registering on LinkedIn has been the best decision he's made for exploring alt-ac jobs. Job interview offers from Apple and Samsung have come to him through this platform, though he hasn't yet graduated!

One new kind of job that has arisen as a result of a surge in DH work is the DH-specific consultant position. This takes various forms and doesn't tend to be as codified or clear as an assistant professorship in, for instance, English or history. However, often these advisory positions are permanent jobs that offer stability and a great deal of reward. In fact, in some cases they also offer significantly better pay than faculty jobs; this is not necessarily

just, but it is worth keeping in mind. Some examples of these kinds of positions include academic technology specialists who work out of libraries or research centers; managers of DH centers or humanities research centers; DH consultants within a department or school who facilitate digital work and often teach dedicated DH courses or technical skills; and project managers or programmers for large governmental or privately funded digital initiatives or projects, such as the Digital Public Library of America (DPLA) or other GLAM institutions (galleries, libraries, archives, and museums). These kinds of jobs generally require a high level of technical competence, but if you happen to have a student who has an undergraduate degree or professional background in computing, this may be an ideal route. There are still a relatively small number of truly qualified candidates for these positions when it comes to technical competence, so the odds for getting these jobs are quite good relative to the tenure-track job market. Applicants do, however, have to really know their stuff on both the digital and the humanities sides in order to be properly qualified.

You might fear that your particular university, department, or fellow faculty members do not have the resources to "train" students for careers outside of the academy. But a simple way to help your students with alt-ac careers is to hold early conversations about the possibility, quite early on in their process to degree, so they can start making good decisions early that will make it work later on. You should also be prepared to revise your reference letters to make them appropriate for the business world, as well as field phone calls in which you speak to potential employers about your student's qualifications, work ethic, and facility with working productively with colleagues. We—academics in the humanities—also need to start thinking about how to make broader systemic changes. For instance, how might you use your service work to advance this change? For S., her involvement in her department's graduate committee involved the replacement of a standard foreign language requirement for an "alternative competencies" requirement. Students may still demonstrate facility in a foreign language to satisfy this requirement, but they could also demonstrate mastery of a computer language, sign language, or screen-reading

technologies. One of the most radical (and most promising) suggestions for encouraging alt-ac employment is to develop two-track degree programs, one targeted on research and the other on alt-ac positions (see Alpert-Abrams).

Conclusion

Although the job market may be one of the motivating factors for graduate student interest in DH, it is worth remembering that the best reason to do DH is not for its cachet—simply to say that you "do DH"—or for potential material benefits in an uncertain world. These are eminently understandable reasons, and indeed, there may be a slight advantage for DH-trained candidates for certain positions. But ideally, you should incorporate DH into graduate work because it genuinely seems interesting to the student *and* seems like it will enhance discipline-specific research. Luckily, this happens quite often! No matter what, the emphasis should fall on what DH methods can do to enhance the degree program and further conversations within the student's field. Just as you wouldn't adopt DH methods for their own sake in the undergraduate classroom, in the grad student context you wouldn't suggest DH if the student doesn't want to participate in it or if there is no added value in a particular course or project. For grad students, and for you, the best reason to take a risk and do DH is because you recognize its real benefits and because it energizes your work.

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9

Collaborating

One of the many benefits of digital humanities (DH) is its emphasis on collaboration and interdisciplinarity, both within and beyond your college or university. This chapter focuses on the kinds of relationships that can be forged and strengthened among those working in DH and the mechanisms by which such collaborations can be initiated and sustained. In addition to recommending software and platforms to facilitate collaboration, we offer some more general principles of collaboration and reciprocity that could be useful anywhere. In this chapter, we cover various types of support for collaborative work, starting first with ways to collaborate within your own institution to support networks and resources and then reaching out to the DH community at large through social media, professional organizations, grants, and the like.

Finding Support and Community within Your Institution

When you're looking for support and community at your own institution, you're likely seeking a variety of material and financial resources, as well as opportunities for consultation and project collaboration. Sometimes, you will need material support, whether it is the in-kind support that an information technology (IT) department can offer or funds from your department or college that you must formally apply for. Sometimes, you will want to reserve a laboratory or space at the library or ask a librarian to come speak to your class. At other times, you simply need to set up a coffee break with a colleague who has experience with navigating your particular institution or teaching your particular study body how to explore the humanities with DH approaches. At still other times, bringing your colleagues together for a brown bag lunch talk session will help you benefit from others' ideas and solicit feedback for your own ideas. Perhaps you need an assurance from your department head or other administrators that they will grant a particular course request or support your grant or award application as it moves up the university hierarchy. With a more complicated project or course assignment, you might seek active, long-term collaboration with faculty who work in the computer sciences or pursue DH projects in other departments.

In the UK and European contexts, it's common to team teach modules or course sections and to collaboratively design reading lists, syllabus materials, and assessments. In these cases, you won't be choosing your collaborators, necessarily, nor will you be choosing or seeking out collaboration as a methodology. However, many of the best practices outlined in this chapter (especially in our final section "Working with a Team") will still apply to collaborative situations that are assigned rather than selected. In team teaching scenarios like these, you may find yourself more able to engage with the parts of this book that focus on single-class activities that you could undertake during your own week's lecture or seminar, while broader design questions might need to be negotiated and discussed with colleagues before implementation and will need to take into account all lecturers' goals and teaching philosophies. As in any collaborative relationship, you will benefit from an open and flexible approach to course design in team teaching situations. Communication

software and collaboration platforms as recommended below (even a thoughtful use of your institution's chosen Learning Management System) can be very useful in these circumstances for creating a community of lecturers and students in which everyone can participate.

In a North American context, you will more often need to find and nurture collaborations on your own since teaching is largely done autonomously and courses are designed by individual instructors rather than teams. If you initiate a collaboration through an email request, keep in mind that, as Aimée Morrison has written in a very helpful blog post, a massive gap in tact separates the "me-first-and-do-it-now" genre of email requests from the "I-would-like-something-if-possible-thank-you" genre of email requests (par. 28). Morrison's post specifically advises students reaching out for professors' help, but her helpful formulation is equally relevant for asking fellow faculty members and university staff members. She advises,

> Pay attention to the needs and constraints of the organization rather than restricting your view to your own desires or needs. Be a little more formal. There is a lot of room for give and take, for favors and accommodations in turn, but not if you burn all your bridges while standing on them. (par. 30)

Here is a brief checklist of possible collaborators you might find within your institution and sending those kinds of emails:

- Fellow faculty members within and outside your own department (when seeking faculty with similar interests in DH, be sure to search cognate terms such as "data visualization," "digital archives," "humanities computing," "data analysis," etc.)
- Librarians, archivists, and special collections professionals (we elaborate on this further below)
- IT services at your institution (these may be more extensive than you realize, so it's worth asking about potentially underutilized resources and equipment that maybe available)

- Interdisciplinary research centers, collaborative programs, or speaker series
- Specific DH initiatives (at some institutions these are centralized while at others DH activities take place in a much more fragmented way by individual practitioners)

To access more detailed information about these types of collaboration, as well as more ways to find financial and material support for your digital pedagogical experimentation, see “Finding Internal Support Communities,” which is

Chapter 10 of the first edition of this book.

Working with Libraries and Special Collections

Though working with other faculty members can be incredibly fruitful, collaboration in DH extends beyond scholar-to-scholar exchange. Libraries have been working broadly in the field of DH since long before the discipline was called by that name, and they often form the nerve center of DH innovation and training at individual institutions. Many large-scale digital projects we've mentioned here are hosted by and created in collaboration with librarians, some of whom are specifically "DH librarians." DH librarians typically have to focus on their own research projects, and their job descriptions may not always specify instructional support, but many do, so it's wise to figure this out before designing your DH pedagogy project. (See Muñoz to learn more about the practice of DH from a librarian's perspective.) Even if you don't have access to a DH librarian, libraries can offer lots of support for your teaching. After all, even though not all librarians have some sort of technology-related term in their titles, they are fundamentally interested in information, its histories, its forms, and its dissemination. As a result, for many of you, librarians in your local area may be far more interested in your DH efforts than your departmental colleagues. You might wish to arrange a guest lecture in the library for a particular topic, or to encourage your students to take part in some of the extracurricular orientation and training services run by librarians.

In general, library support tends to come under the following broad categories:

- Material resources, including computer labs, equipment for digitization, data preservation advice and data hosting, printing machinery of various kinds (sometimes including specialist kinds like letterpress or 3D printing), rare books, and special collections materials.

- Training courses and workshops, some designed for faculty and others for students, in software from GIS to TEI encoding, as well as specific topics like social media for academic purposes, digital research asset management, or reference management. Your librarians will likely appreciate your input as they decide what programming to put on in the coming academic year, so do not hesitate to approach a librarian about how they determine their schedule of events.
- Personalized advice and consultation on teaching with technology from research librarians and IT specialists working within your own institution's library system. Large universities might employ a copyright librarian, for example, who can advise you about legal matters regarding your work creating digital editions or incorporating third-party materials in digital exhibitions. (For this book we consulted Texas A&M's copyright librarian, Emilie Algenio, to ensure the accuracy of the copyright information in

Chapter 1.)

- Digitization services and long-distance collaborations with libraries far from where you are that house materials specific to your discipline.

Search for your own library's Faculty Library Guide for information specific to your institution. Many of these services are centralized at some libraries through "Research Commons" or a similar organization, or are coordinated by a digital services or DH librarian. These roles have seen rapid growth since the turn of the twenty-first century, and the scope and scale of the jobs vary considerably by institution, so it is worth checking whether your institution has designated a specific librarian to work on DH matters.

Your institution might also house special collections and archives that you can visit with your students. The comprehensiveness and scope of collections range widely depending on your institution: at a large research institution you might have access to a world-class full-scale research library with millions of volumes at your fingertips (and very clear set policies for the pedagogical use of such materials), whereas at a rural small liberal arts college you might find that the archives are predominantly those of the university itself, and the rare books are limited to a donated private collection of twenty-five volumes.

If your institution does not have access to these kinds of resources you are not completely out of luck, although it's almost unavoidable that you will have to expend more time and creativity in finding and developing suitable projects for your students. You might find digital exhibitions and collections immensely valuable or work with librarians at larger organizations to digitize materials specific to your class. You can also explore libraries, archives, museums, galleries, records offices, or other cultural institutions in your local area and contact them about integrating their resources in your course. Many "public humanities" projects form this way; many instructors also use public spaces, such as streets, neighborhoods, and memorials, as if they were archives. Such projects are most common in the history, architecture, and design domains, but there is no reason why other fields cannot similarly find appropriate topics or objects of inquiry. Librarians and

curators will probably be just as eager to find students and instructors interested in their holdings as you are to find suitable resources for your students to interact with.

Public Humanities and Public Engagement

Another way to engage with communities beyond the classroom is to explore the digital innovations in pedagogy that are occurring in museums, libraries, and local small businesses in your city or neighborhood. While academic libraries offer many supports, as discussed above, many public libraries are also leading in the development and maintenance of Makerspaces and digital methods of public engagement. Connecting with your local public library can be a great opportunity to make links between your students and those institutions. You might be able to plan field trips, offer 3D printer demos, or partner with public libraries to give lectures or workshops for a broad audience. These are often ways to meet people outside of academia who are deeply engaged with DH, even if they might not always call it by that name. Working directly and collegially with library and museum professionals can be an exciting opportunity for knowledge exchange across professional fields and can lead to long-standing collaborations over many years. Moreover, resources designed for public librarians, such as the "Getting Started" resource created by the Public Library Association in the United States, can be tremendously useful if you yourself are thinking of creating a Makerspace or community space within your own institution ("Makerspaces").

Engaging with Social Media

Whereas

Chapters 4 and

6 offer ways for students to interact with course content via social media platforms, this chapter is meant to share how *you*, whether you are a faculty member or a graduate student, can use these tools to further your knowledge of DH pedagogy, keep track of DH initiatives in your field, and follow the latest trends in DH generally. Social media may in fact be the easiest way to do so, as you do not have to travel to a conference, wait for published results in academic journals or monographs, or email individual scholars. Each platform or site—such as Academia.edu, Facebook, Flickr, Instagram, LibraryThing, Pinterest, Reddit, TikTok, Twitter, and YouTube, which are discussed here—offers a slightly different set of affordances (i.e., opportunities embedded in their code and design). Whether the platform encourages users to spend most of their efforts posting to a public forum, privately messaging one or more people, communicating via images or video, curating internet content, or friending or following other users, each social medium supports a slightly different buffet of ways of interacting and privileges (whether by accident or not) certain types of interactions. Each platform therefore cultivates a distinct personality, and certain types of scholars are attracted to certain platforms rather than others. Restricting yourself to two or three, but using them heavily, is a smart strategy for getting the most out of social media. This is because you will find yourself using each platform for different purposes, as Table 9.1 indicates.

TABLE 9.1 *Choosing a Social Media Platform*

Platform	Great for	Not-So-Great for
Academia.edu	Accessing teaching materials created by others (or sharing your own); soliciting or providing feedback on materials in digital workshopping sessions	Asking or answering questions
Facebook	Creating a multidimensional community that accommodates work-related and personal content	Sharing documents, getting to know new people

Platform	Great for	Not-So-Great for
Flickr	Interacting with visual content in many ways (such as organizing, storing, annotating, geotagging). Also accessing public domain image collections (the British Library is on Flickr, for instance)	Finding images owned by institutions not on Flickr
Instagram	Sharing and editing images that you have created and uploaded yourself, finding images from cultural institutions or organizations promoting their materials and events	Organizing image collections so images are easy to find, secure, or private
Library Thing	Learning about how individual books are received and used by other readers	Restricting your gaze only to scholarly reviews or content
Pinterest	Managing images, website links, and other digital content that you have found (rather than created)	Cultivating lively conversations with other users. Proper attribution and citation practices
Reddit	Discussing contentious topics without the caution and self-editing typical of some other platforms	Keeping your finger on the pulse of DH activity
TikTok	Filming and watching provocative, impressionistic clips that can be easily linked to other platforms	Curating a stable, easily searchable body of text-based information
Twitter	Staying up-to-date with trends in DH by having fast access to a significant number of DH practitioners from around the world	Articulating complicated and nuanced arguments; avoiding trolls

Platform	Great for	Not-So-Great for
YouTube	Hosting multimedia lectures or student projects for free and with adjustable privacy settings	Controlling the ultimate fate of uploaded assets

In any of these platforms, the rules of any academic community still apply. Follow the semiotic norms of the community whenever possible, whether that means tamping down on any slang and swearing or being more tolerant of others; learning the jargon or shorthand particular to that medium; adopting a terser, more concise style of writing; or accepting what may seem to you to be an unsolicited critique (so long as it is not cruel or abusive, of course). As you would when joining any new digital community, search for answers before you ask other users questions and, more specifically, search for answers within that particular platform to avoid redundancy. When you ask for help, be willing to share particular details about your project, as other users will undoubtedly want to know your precise needs and situation to offer truly useful advice. Be ready for finding yourself engaging in long exchanges with users who, it may turn out, seem more interested in the nitty-gritty than you may be! And if *you* are the user who seems more keen on continuing a certain thread, look out for signs that the other user perceives your tenacity as tiring, self-promotional, or even aggressive. Finally, consider separating your personal account from a professional or institutional account; that way, you can retain the freedom of your personal account while keeping your professional feed streamlined.

It is also worth noting that there is a significant move by some academics and members of the general public to avoid social media altogether because of concerns about the ethics and labor practices of the so-called "tech giants," privacy, political issues, or exposure to harassment or discrimination. However, total avoidance of all Google or Amazon products is very, very challenging, as users who have tried it note (Hill 2020). Still, it is important to consider social media in a balanced and critical way in order to appreciate its shortcomings as well as its affordances. This is a complex debate and you will find the right engagement level for your own personal

views on these issues. C participates in a very limited way in social media for all of these reasons, and again we recommend referring back to your own philosophy to discover the right path for you.

Joining Academic Organizations

In your own home discipline, you probably belong to at least one formal academic organization that brings scholars from disparate institutions together to facilitate conversations, organize conferences, and provide support in the form of funding or prizes. These organizations are often the bodies that oversee many of the other forms of community, both formal and informal, that are described in this chapter. DH has its own such organizations, which you might wish to explore in order to access some of the opportunities beyond your own institution that may be available to you and your students. The largest academic organization in DH, the Alliance of Digital Humanities Organizations (ADHO), is actually a consortium of various national and continental organizations. The ADHO's member organizations are Association for Computers and the Humanities (ACH), the Australasian Association for Digital Humanities (aaDH), the Canadian Society for Digital Humanities / Société canadienne des humanités numériques (CSDH/SCHN), centerNet, the Digital Humanities Association of Southern Africa (DHASA), the European Association for Digital Humanities (EADH), Humanistica, L'association francophone des humanités numériques/digitales (Humanistica), Japanese Association for Digital Humanities (JADH), Red de Humanidades Digitales (RedHD), and the Taiwanese Association for Digital Humanities (TADH). Membership in your closest regional group can allow you to access the ADHO's infrastructure for supporting training opportunities and for connecting with scholars in DH both regionally and globally. The organization also runs a conference every year, which we'll discuss further in the following section.

Beyond the ADHO and its member organizations, a similar resource is centerNet, an international network of DH centers at institutions, which organizes an annual "Day of DH," in which you can participate through social media or in person. Another helpful resource and active community is HASTAC (Humanities, Arts, Science, and Technology Alliance and Collaboratory). HASTAC's tremendously useful website provides links to funding and training opportunities, working groups, prizes, and special initiatives. It also has a set of resources and a blog dedicated specifically to pedagogy (on the website under "Explore" and then "Teaching and Learning Practices"). Subscribing to the Humanist listserv will also keep you up-to-date with upcoming conferences, job opportunities, and calls for papers. One final option to look into if you're interested in learning more about specific projects or forging new collaborations is DHCommons, which matches collaborators to DH projects and runs an open, project-oriented peer-reviewed journal.

Participating in Events: Conferences, Unconferences, Workshops, and Institutes

As in many disciplines, DH scholars still see the value of meeting human-to-human rather than always interacting through screens, so they come together in person whenever they can (public health measures allowing, of course!). Meetings take place all over the world through various organizations, many of the very same ones we mentioned in the previous section. DH conferences, such as the HASTAC conferences, tend to be particularly welcoming to beginners in the field. This is why in some cases DH gatherings are called "unconferences." They're designed to shed some of the traditional hierarchies and cliques that can develop in existing specialist disciplines over time, and they harness the spirit of openness and inclusivity that, in an ideal world, underpins DH as a whole. More traditional, formal conferences

include the Annual Conference of the ADHO, usually referred to simply as the Digital Humanities Conference. Submission procedures can vary from year to year and generally include a complex peer review system that may take some time getting accustomed to, so make sure to read the instructions carefully (see Kim).

Many DH conferences include training components and feature many kinds of workshops or demonstrations. One of the most popular workshop/conference experiences is the Digital Humanities Summer Institute (DHSI) run out of the University of Victoria in Canada. Every year, over two weeks in June, professors, librarians, academic technologists, and graduate students gather in Victoria and participate in intensive daylong workshops interspersed with social events and conference-style presentations. This has continued as an online initiative during the Covid-19 pandemic. There are over fifty courses available in subjects ranging from wearable computing to beginner computer coding, and there's an atmosphere of fun and collegiality in a beautiful setting. For the technological beginner who wants to know more, there is no better way to spend a week in June. Additionally, if you have graduate students who are DH-curious, but your institution doesn't yet offer much formal skills training in the discipline, they might benefit from the DHSI's Graduate Certificate in DH.

A similar summer school to DHSI in the UK is the Oxford Digital Humanities Summer School, which takes place over a week each July. The largest international conference is the annual DH conference run by ADHO. There are also often special sessions at the Modern Language Association (MLA) and other large field-specific humanities conferences on DH, so frequently you can dip into DH communities and conversations without attending a specific disciplinary conference outside your original field of study. Poster presentation sessions and exhibitions, a model borrowed from the sciences, allow current DH projects to showcase their work. The poster is very often a suitable genre for showcasing pedagogical experiments and teaching-related projects. You may find, yourself, that a poster could be a good way of starting to add your own voice to the conversation about technology in the classroom: a little bit less extensive than delivering a

paper, the poster can give a snapshot of what you've done and allow you to chat informally with exhibition goers about your experiences.

Some of the most exciting kinds of events you will find might be happening in your own local area, especially because as each year passes, more and more events are planned outside of North America and Europe. Many cities and regions have local DH groups that run periodic unconferences and training sessions. These might take place through university libraries in your local area, through DH centers, or sometimes even through individual scholars who open up their own classrooms for workshops or unconferences. Searching for the nearest THATCamp, the most prominent of such unconferences, is a good way to start your search. These can also be excellent events for your students and can provide a low-pressure introduction to the world of academic conferences and events.

Applying for Grant Funding

Applying for a grant, a lengthy and time-consuming process, might initially not seem like the most exciting part of your teaching and research work. Yet the fundamental benefits of working toward grant funding are obvious and undeniable. It is also true, as we've noted throughout this book, that you don't necessarily need enormous amounts of funding or a great deal of infrastructure to do excellent work in DH or to teach digital skills (see also Galey 2012). With additional funding, however, you can have the scope to experiment, to employ students at a fair wage, to travel, and to generally enhance your own academic development as well as that of your students. A less-discussed benefit of applying for external funding is that writing grant proposals can bring people together: perhaps you want to learn from a colleague at another institution, to co-run a workshop, or to build a teaching resource together. The grant application is often one of the first steps in such a project—sometimes you can start small, with a grant at your own institution—but there are also lots of opportunities through some of the major national

and international organizations that allow you to be very ambitious if you want to be. In addition to the further collaboration and community building that successfully funded projects provide, the process of dreaming up ideas and working with others on the application process can forge new bonds between researchers even before a project or event has actually taken place. DH is, at least for the moment, a comparatively well-funded area of the humanities with lots of new opportunities for grant funding, depending on the kind of project you have in mind.

Working with a Team

One thing that often distinguishes DH from other disciplines in the humanities is its tendency for collaborative team projects. These can range in size from two faculty members coming together at the same institution to produce a scholarly edition to a team of over a hundred contributors including libraries, museums, universities, and cultural institutions working together over many years (perhaps including student research assistants (RAs), technicians, librarians, and faculty members) to build a large-scale resource or a large-corpus data mining project. Any kind or scale of collaboration will require some tools, as indicated in Table 9.2, our roundup of the most useful collaboration and project management software packages and platforms.

TABLE 9.2 *Platform Recommendations for Collaboration and Project Management*

Tool	Purpose	Pros/Cons

Tool	Purpose	Pros/Cons
Basecamp	Communication, document sharing, calendars, to-do lists that can be assigned to project members, and general workspace that keeps correspondence out of your email inbox	Pros: discussion archive and search can be super useful in a long-term project, great for creating separate "workspaces" for RAs and core team members Cons: paid subscription required for research uses (free educational accounts are available for classroom-only use)
Asana	Collaboration workspace with full service for communication	Similar to Basecamp but Asana Basic is free
Google Tools (Docs, Drive)	For collaborative real-time cowriting, document sharing, and so on	Pros: free, easy to use, saves version control issues, easy controls on document permissions Cons: Owned by Google
Slack	A real-time discussion/chat system/communication center for your project	Pros: free, provides real-time chat, channels allow for organization, some features like emojis are fun Cons: can get chaotic and be a lot to keep up with if you have multiple channels
Trello	A Digital Kanban Board	Pros: useful for task management and project management, can be integrated with a variety of other tools Cons: a bit tricky to export from

Tool	Purpose	Pros/Cons
Miro	A digital collaborative whiteboard	Pros: good for big picture planning and less linear approaches to shared thinking Cons: can quickly become chaotic
Microsoft Teams	Most known as a videoconferencing option, Teams also integrates with chat and calendar functions	Pros: if your institution uses Outlook for email, Teams is integrated into that system. Your department may already use it Cons: the video conferencing option is much clunkier than others; notifications can be cumbersome if you don't turn them off

There is a lot to talk about when it comes to these kinds of projects, but here, we focus on the teaching and student-oriented components of large-scale interinstitutional collaborations. Frequently, collaborative DH projects are funded by grants, so the advice above will be useful in terms of setting up and securing funding for a project if you have one in mind. Additionally, any collaborative project you undertake is likely to be connected to your research in your home discipline, so the tips and suggestions in the next chapter may help. We want to stress when thinking about student involvement in these kinds of projects that ethical approaches to all forms of labor are crucial, especially since they can involve a significant amount of work like data entry and metadata creation, and there are a few disciplinary best practices, also listed in the "Further Reading" for this chapter, that can serve as guides.

A useful starting point for considering the various roles in a collaboration is the "Collaborators' Bill of Rights" that came out of a grant-funded workshop in 2011 and has become a touchstone in DH, which articulates the importance of appropriately crediting all members of a team, advocating for fair labor practices, and ensuring that credit is apportioned based on actual

contributions and not on employment status. Part of what's important about consulting this type of documentation in DH is that these practices do differ from standard humanities approaches when it comes to, for example, the crediting of student work. Multiauthored papers are much more common in DH than in many humanities fields, and since many DH projects take place in lab-like environments or with a lab-like ethos, the norm is to credit students as named authors on papers to which they contribute substantially and certainly on any papers for which they do any actual writing. There is still some complexity about the ordering of authorship in multiauthored papers in DH: some teams choose to list names alphabetically, others do prioritize a particular first or last author (adopting conventions from the sciences) and still others favor a random or alternating approach. More discussion and development of field-specific best practices in this domain is ongoing. For now, in a field with still-developing norms, clear documentation is key.

One of the opportunities afforded by large-scale collaborative projects is the venues they can provide for pedagogical resource offerings. The Map of Early Modern London Project is an excellent example of a project that foregrounds pedagogical resources on its project page under "Teach with the Map of Early Modern London" and highlights some of the resources that instructors at large may find useful. If you are working on a large-scale project such as a digital archive, you may wish to provide a specific teaching page or section that includes modules, lesson plans, and suggestions of highlighted materials that instructors might gravitate toward.

One of the most recent pressing conversations in the realm of digital collaborative project work is taking place on the topic of project sustainability. This is something that was often overlooked in early DH projects, which began with gusto and then suddenly disappeared when grant funding ran out or when a PI retired or moved institutions. If you are considering starting one of these collaborative projects or working on one, you also need to think about how and when your involvement with the project —and/or the project itself—is going to end. Is this going to be a career-long endeavor or a defined project with a start and end date? It will be important for any students who are involved in the projects to also understand the

duration and nature of their positions and of their involvement. Of course, all of these things can change, and sometimes projects outlast their original timelines or end early, but think about sustainability both in terms of the project's technical components (you should be certain the software and equipment you select will be usable, accessible, and updated for the entire life span of your project) and also of the labor components (you must be certain that there are willing, knowledgeable, and sufficiently compensated workers who can maintain the project). The SSHRC-funded "Project Endings" project at the University of Victoria has been investigating different DH projects' approaches to sustainability, archiving, and endings more broadly and is in the process of developing documentation and best practices for projects to consider.

Conclusion

Many would-be DHers would benefit enormously from the communities within and outside of their own institutions. Whether or not your institution provides formal recognition for DH as a field, whether or not your institution provides funding for DH pedagogical experiments, and whether or not you see yourself remaining at your present institution for many years, cultivating a community will help you support your attempts to incorporate DH in your classroom. Above all, collaborations large and small should be informed by intentional principles of ethical and respectful labor practices and an abundance of discussion and documentation.

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10

Contributing to Your Research

We expect that some of the suggested software, resources, and approaches mentioned throughout this volume will have seemed immediately relevant to your research interests even as you considered them in relation to the classroom. You might have already been thinking as you've been reading about how you might use some of the digital image repositories to find images for an article or how to use text analysis tools for your own close reading as well as for student assignments. This chapter addresses the ways in which digital humanities (DH) approaches in the classroom can complement, enhance, and shape your own research. Being aware in advance of these additional uses for your forays into digital pedagogy will help you make the most of your new skills. Many of the very same DH resources that your students might find useful or exciting are also ones that might facilitate, or even transform, your own research. You and your students can connect with the internal and external communities discussed in

Chapter 9, and they are available to help you in your digital pedagogy, but remember that these organizations are equally available to you as a researcher. A teacher, of course, does not need to publish research in "traditional" scholarly venues to be a great teacher: learning DH for the classroom is an admirable and ambitious goal in and of itself. Not all digital pedagogues may be interested in (or rewarded by their institutions for) applying the concepts in this book to scholarly research. But for those who are interested, we offer some options to help you get started.

Counting More Than Once: The Skill Life Cycle

Throughout this chapter, we emphasize the importance of making each effort count more than once. Instead of approaching a new digital technique or resource as a blip on your radar—something that no longer matters after you grade the assignment or finish the activity—we suggest that you approach it as potentially contributing to your different roles and activities as a researcher and teacher. Choose carefully among the options outlined throughout this book so that your new skills will benefit your research to the greatest possible degree. Each skill you learn and teach, in other words, should not be self-contained but, rather, be part of a life cycle. By "life cycle," we mean that this skill should be adaptable for your other needs, being capable of use and reuse not only in other courses but also in the trajectory of your intellectual life as a researcher or thoughtful citizen of the world. For example, if you did contact faculty from another department to inquire about unique classrooms or equipment that you might be able to reserve or borrow, as we discuss in

Chapter 5, you might strike up a conversation that leads to coteaching that could then lead to interdisciplinary collaboration that relates to your field of research. To use a more personal example, our own collaboration on this book grew after we met to work on an open-source textbook project in which we both participated. We fully expected a digital anthology builder as the sole end result of our collaboration. But instead, after meeting each other, we realized other opportunities for collaboration, and we have hosted workshops, guest lectured, presented conference papers, written blog posts, and met dozens of new people who, in turn, have also opened up new DH projects and new opportunities for research.

Incorporating Digital Tools in Your Research Methods

DH tools are very useful for streamlining your research activities: backing up work, managing multiple drafts, creating bibliographies, and organizing research assets (such as chunks of text, archival materials, or important images). Indeed, research management and organization tools are perhaps some of the most time-saving digital innovations that we have available to us both inside the classroom and for research. Tools for automatically generating citations, juxtaposing alternate editions, and storing and curating research materials can allow you to create a workflow that suits you well and keeps your research optimally organized and therefore most effective with your (often precious and limited) research time. By using a reference manager such as Zotero, which allows for one-click storage of articles and citations you find on library catalogs and elsewhere on the web, you can automatically generate bibliographies and reading lists for your work, change citation styles at the click of a button, and even share bibliographies with colleagues or students.

One rule of thumb for using digital tools to assist research is to choose one tool for a given purpose, then use it consistently. There will often be a dizzying variety of software options available to you, and trying them all out and learning their features can be inordinately time-consuming. We steer you here toward our own tools of choice for a variety of elements of research—not because there aren't other options out there that perform the same function, but because the most important thing to spend time on is always your research itself, not the tools. In this particular arena, we've done the testing for you and present here a toolkit that is ready to use. You could easily, within a single afternoon, get started with the research workflow we propose, as presented in Table 10.1.

TABLE 10.1 *Using Digital Methods in Your Research Workflow*

Task	Suggested Tool	Significant Features
Reference Management	Zotero	This free reference manager automatically senses citations in your web browser and saves sources with the click of a single button. You can organize your citations into collections; automatically download full-text .pdfs; share collections with others; and automatically generate bibliographies that are properly formatted according to various citation standards.
Note Taking	Evernote (or Goodnotes for iPad)	Evernote organizes notes into "Notebook" collections. Users can also add images and sound files. Its browser extension saves screenshot extracts from web browsing. Notes are automatically searchable, and they are shareable through the "Notebooks" function. Specially designed paper notebooks allow you to combine paper and digital notes. Goodnotes does similar for iOS and adds Apple Pencil annotation capabilities.

Task	Suggested Tool	Significant Features
Cloud Storage	Dropbox	Cloud storage offers a number of advantages, not least of which is automation: you can install Dropbox in your computer, save all your files there, and they will be synced across your devices automatically. Dropbox allows you to store up to 2 GB for free; if you need more storage, try a paid account or, better yet, check if your institution has a cloud storage facility for your use.
Archival Image Management	Tropy	Tropy is an open-source tool specifically designed for researchers to organize and preserve archival or research-related images.
Collaboration and Project Management	Basecamp	These programs streamline project management and minimize email traffic by providing a virtual space for collaboration and meetings. Basecamp features calendars, to-do lists, file and document sharing, and discussion boards. Slack is a free option that organizes conversations into “Channels” and allows for real-time and email-style messaging.
Writing	Scrivener	The Zotero plug-in for Microsoft Word allows you to automatically drag and drop properly formatted citations into your work as you write. However, we recommend Scrivener, designed specifically for book-length or complicated texts, has many more options for every stage of the writing process (outlining, brainstorming, annotating, and revising).
Distraction Minimization	OmmWriter	This program creates a serene full-screen writing environment that can provide calming backgrounds and white noise or a simple, silent gray screen. Although you will need to transport your writing elsewhere later in order to integrate citations and to format your work (via copy and paste), the distraction-free digital environment may be worth it.

Beyond these tools, which facilitate your own research record keeping and day-to-day practice, DH has also facilitated new modes of research, especially in the area of collaborative work. A commitment to collaborative research, more common in DH than in many traditional humanities areas, has led to large, shared sets of research material that is generated by multiple researchers and can provide near-instant answers to questions that might have taken a lone researcher years of work to address on her own. For example, resources like the Orlando Project (created collaboratively by several scholars and dozens of graduate students over twenty years) can allow a researcher to quickly draw connections between women writers across time periods and geographical regions that might have taken a great deal of archival digging to uncover without Orlando's search facility. Orlando has also, of course, generated a great deal of scholarship throughout its long life as a digital project, and the born-digital scholarship that appears on the site itself makes a significant and innovative contribution to scholarship on women's writing (see Holland and Elford).

Producing Research on Digital Pedagogy

DH pedagogy experiences not only contribute to *how* humanists do research but also to *what* we research. For someone who has experimented with digital methods in the classroom, perhaps the most natural way to begin doing research in DH is to do work focused on digital pedagogy itself. Indeed, many of the researchers we have quoted from throughout this book and have listed under "Further reading" are engaged in just the same kind of experimentation and new work that you yourself are beginning by working with some of the tools and techniques suggested here. Practice-based and practice-led research, both mainstays in creative disciplines from theatre to design, are also some of the primary modes of conducting research in digital media and pedagogy, though they have been much less frequently adopted in traditional humanities disciplines, such as literary studies and history. In the

spirit of experimentation that underpins much of DH, practice-based and practice-led research assumes that by creating a product or, in the case of digital pedagogy, implementing a new strategy or technique with students, new knowledge can be gained that either changes the direction of research (practice-led) or allows the activity itself to be treated as research (practice-based). See Peck for more information on this topic.

Because DH methods in teaching are relatively new, it can be valuable to others to record your experiences in research venues both formal and informal, as well as to share pedagogical outcomes in an educational research context. In order to participate in practice-based or practice-led research, it is vital to keep meticulous records of your activities and their outcomes; think back, for example, to the experiment we mentioned in

Chapter 2, in which instructors tried using voice-to-text technology and tracked their students' learning outcomes following that innovation. If you think of your classroom as a lab, to borrow a common DH analogy—common not because it contains beakers or particle colliders (which it probably doesn't) but because it is a place of empirical experimentation from which new and interesting results might be derived—you are already thinking like a pedagogical researcher.

There are a number of different venues for publishing research on teaching. Consider, for instance, the increased attention to teaching in edited collections (as evidenced by the upcoming collection *Debates in Digital Humanities Pedagogy*, edited by Brian Croxall and Diane Jakacki). Additionally, there are several journals that focus on pedagogy or run special issues on the subject. See Table 10.2 for more information about these journals. Most are open access, which increases the number of readers who will see your work, and many allow you to republish your work freely. Be forewarned: beyond the very stable *Digital Humanities Quarterly* and *Digital Studies / le champs numérique*, there is a lot of turnover in DH-related journals. *Digital Literary Studies* has retired, while the *Journal of Digital Media and Literacy* and *Ada: A Journal of Gender, New Media, and Technology* are both on hiatus. For a regularly updated list of active journals, see Dennis Tenen, Alex Gil, and Vika Zafrin's comprehensive roundup, referenced in the bibliography below.

For locating publication venues for your pedagogy materials, your research on digital pedagogy, or for your DH research, it is also worth remembering that your own disciplinary context might be a good place to start. You might find or lead panels on teaching at your annual international conference and perhaps even edit a pedagogy issue of your favorite disciplinary journal. For a more informal venue, you might try contributing your work to an academic blog, many of which are well respected in DH and are excellent ways of beginning to join the vibrant online conversation in the field. A clickable list of blogs that focus on pedagogy is also available in the Web Companion, but also look for collectively written blogs in your particular field or subfield, which may welcome a post about DH pedagogy.

TABLE 10.2 *Academic Journals for Digital Humanities Pedagogy*

Journal	Submission Policies	Notes
Digital Humanities Quarterly (www.digitalhumanities.org/dhq/)	*DHQ* reviews submissions on a quarterly basis; articles should be turned in by the 15th of January, April, July, or October. In addition to traditional articles and book reviews, it publishes reviews of digital projects, tools, and software, as well as Field Reports, Case Studies, and opinion-based Issues essays. There is no set minimum or maximum word count. You may submit work in many file formats, from popular word processor formats to XML, HTML, CSS, JavaScript, and XSLT.	*DHQ* is open access, which increases readership. *DHQ* does not ask authors to cede any rights, so you are free to republish and reuse your own work as you see fit.

Journal	Submission Policies	Notes
Digital Studies / Le champ numérique (https://www.digitalstudies.org/)	*Digital Studies / Le champ numérique* works under a Creative Commons 3.0 CC-BY license, so you may republish your work on your personal webpage or submit it to your institution's repository. Submissions of around 5,000–10,000 words may take the form of research articles, method articles, commentary articles, and review articles. Continuous publication ensures that your work is available as soon as it has undergone the journal's review and editing process.	*Digital Studies / Le champ numérique* publishes in French and English. It accepts works written in any other language if a French or English translation is provided.

Journal	Submission Policies	Notes
Journal of Interactive Technology and Pedagogy (https://jitp.commons.gc.cuny.edu/)	The open-access *JITP* publishes research articles as well as Assignments, Blueprints, Reviews, Teaching Fails, Opinions, and Tool Tips. There are different formats, such as creative works, interviews/dialogues, audio and video presentations. Its "Editorial Collective" differs from a traditional journal, which typically uses editorial assistants as liaisons between an editor and blind readers; with *JITP*, individual pieces will receive a greater number of "views" than is typical, and the process is open, so you will know who is reviewing your work.	*JITP*'s open, inclusive ethos makes it ideal for graduate students and junior scholars who are experimenting with digital pedagogy.

Journal	Submission Policies	Notes
Kairos: A Journal of Rhetoric, Technology, and Pedagogy (https://kairos.technorhetoric.net/)	Another open-access journal, *Kairos* has published webtexts—publications designed for presentation on the WWW, particularly those using multimedia and hypertext—twice annually since 1996. Like *JITP*, the review process is open and includes multiple reviewers. Submission categories include reflection pieces, reviews, wikis, case studies, interviews and manifestoes; traditional word-processed research articles are not a good fit.	*JITP* expects authors to follow inclusive citation practices. Follow the link at the left to browse sample webtexts by clicking PraxisWiki on the top left corner.
Ada: A Journal of Gender, New Media & Technology (https://adanewmedia.org)	Published twice a year by the Fembot collective, *Ada* invites politically engaged scholarship about gender, technology, and new media. Intersectional approaches and globally aware pieces are especially welcome. It uses an open, collective review process by which "beta readers" access and comment on the same document via GoogleDocs. Most pieces are under 5,000 words, inclusive of citations.	*Ada* asks for jargon-free prose accessible to nonacademics and to an international readership (e.g., readers may use English as a second or third language).

Journal	Submission Policies	Notes
Computers and Composition / *Computers and Composition Online* (http://cconlinejournal.org/sub.htm)	*Computers and Composition Online* is an open-access, webtext-based journal that complements the traditional journal *Computers and Composition*. Whereas the latter focuses on articles and reviews, the online journal welcomes a variety of pedagogical materials and research outputs related to teaching writing with computers.	*Computers and Composition Online* is an excellent first publication venue for graduate students.

Journal	Submission Policies	Notes
The Programming Historian (https://programminghistorian.org/)	*The Programming Historian* has provided high-quality tutorials that teach humanities scholars how to use a specific tool or program. Now, it maintains an open call for 8,000-word tutorials or lessons. How-tos that you originally design for students might be appropriate for this venue if they are revised thoroughly for a postgraduate/professional audience. Rather than submit a finished lesson, authors fill out a proposal form first. If it is accepted, you have ninety days to complete your tutorial under the guidance of an editor.	Like *Ada, The Programming Historian* asks articles to be written in neutral prose targeted at an international audience (avoid nation- or culture-specific references, idioms, slang, and the like)

Journal	Submission Policies	Notes
Digital Culture and Education (https://www.digitalcultureandeducation.com/)	An open-access journal running since 2009, *Digital Culture and Education* accepts many formats of scholarly work, including articles, artworks, podcasts, and videos. They are especially keen on public humanities works, so choose this venue if your digital pedagogy project reaches out to your local community or to the global public.	Scholars from education departments and from the social sciences are typical contributors, so this is a great venue for reaching beyond humanities readers.

Journal	Submission Policies	Notes
Journal of Interactive Media in Education (https://www-jime.open.ac.uk/)	The *JIME* is very much a space for educational technology ("edtech"), which means that articles tend to focus around a specific tool and discuss its implementation, its efficacy, its limitations, and so forth, rather than focus on particular disciplinary knowledges or learning objectives. 7,500-word articles are continuously released, like *DHQ*, and they have sound sustainability policies, so your article will not disappear if the journal folds.	The journal encourages reader comments through Disqus and hypothes.is, so this is a good choice if you would like public feedback beyond peer review.

Journal	Submission Policies	Notes
Hybrid Pedagogy (https://hybridpedagogy.org/)	*Hybrid Pedagogy* was founded specifically for pedagogical work within the digital humanities. Short pieces of 1,500–2,500 words are written and formatted in the style of online journalism to be appropriate for reading with a smartphone (e.g., use hyperlinks rather than a list of works referenced). The collective peer review process is entirely open and continues even after a work is accepted and published.	*Hybrid Pedagogy* calls for "critical digital pedagogy," which centers students' experiences over edtech, so approaches meant to empower students are appropriate.

As you reflect on your teaching to transform it into research, it's important to consider the larger questions that are at stake for you when you conduct a particular activity or give a particular assignment in class. One way to begin such research is by drafting a statement of teaching philosophy that is specifically tailored to your efforts in digital pedagogy. (If you are on the job market, this document could do double duty as your statement of teaching philosophy.) Or, as a thought experiment, review your course objectives, and recall the justifications for digital work that you share with your students, turning these into manifesto-like proclamations to make explicit the implicit pedagogical models that have shaped your classroom experiences. Compare these insights to extant publications on digital pedagogy to find what your experiences uniquely offer the DH community. We provide some suggested resources that offer particularly good examples in this genre in the "Further reading" list at the end of this chapter. Consider offering the same assignment or activity in a second course, tailoring it to incorporate student feedback

from the first iteration, thereby giving you a foundation for thinking critically about designing DH-inflected activities or assignments.

One of the ways in which you are often already engaging in pedagogy-based research is through the research done by your students, whether as a part of your course or as a customized, separate research project. Undergraduate research experience is becoming a priority at many institutions, and DH projects often provide clear opportunities for students to participate in collaborative work, as we discussed in

Chapter 9. In addition to promoting active learning, digital literacy, and public writing, DH research that students do is often publishable, assuming, of course, your willingness to help.

Integrating existing projects, especially those with a participatory or crowdsourced element (such as Transcribe Bentham or the Orlando Project), into the classroom can be a powerful way to show your students the usefulness of the techniques they're learning. More traditional academic publishing routes are also open to students, however; if you come upon a student who has found some interesting and previously unknown results when putting *The Declaration of the Rights of Man* through the text analysis tools we described in

Chapters 4 and

6, why not suggest that they publish these results in order to share them with the scholarly community interested in French history or political philosophy? If the student needs more assistance to bring their work up to the level of academic publication quality and you also have substantive research to add to their work, you might consider coauthoring a piece with them (perhaps in a way that frames the assignment that the student's work has emerged from). Otherwise, you might simply facilitate the process by suggesting some of the journals or venues in which their work might appear. Do not forget some of the new online platforms that have emerged for certain journals; in our field, modernism, there are *Modernism/modernity*'s PrintPlus Platform and the British Association of Modernist Studies' new website, *The Modernist Review*, so do a bit of searching and find out if there are any approachable publication platforms that may be appropriate for advanced student work.

Broadening the Scope of Your Research

Beyond publishing on digital pedagogy, another way to incorporate DH into the subjects of your research is to use digital tools to examine texts, history, and phenomena particular to your disciplinary field. These kinds of tools don't just keep your students intrigued or make your normal research processes easier; they also invite new research methods. Be on the lookout for that magical, yet common (and for us, at least, almost inevitable) moment when your use of a DH tool to aid your research begins to transform that research.

A completed life cycle for a new tool or method usually involves at least three phases: using it in the classroom, applying it to your current research within your academic specialization, and doing research about that tool or about its implications for DH research. In a Voyant session, S was able to pinpoint, very quickly, passages about nature in *Jane Eyre*, and the results are not only incorporated in a book project on Brontë and the Anthropocene but also appear in a chapter about using DH for thematic analysis (see Ross

and El-Khatib). In these examples, the helpful method for finding empirical proof for her literary analyses became a topic of research in and of itself. You, too, should consider whether a DH technique or tool can itself become an object of analysis, whether you focus on the particular *tool* (Voyant), the *form* of evidence it outputs (visualizations), or the broader *type* of tool it is (most-frequent-word tracker). This is especially relevant if you have misgivings about the accuracy of a tool or corpus—that is, any discrete set of texts, images, or other files. Also, if you find yourself concerned about how some of the DH practices might relate to more traditional research in your discipline, this can be an extremely productive topic for analytical discussion. You could, for instance, write a "tool review" for an academic journal, use your dissatisfaction to brainstorm a new digital tool or method that could help other humanities scholars, or write a blog post or conference paper about your reservations about the tool. Just make sure to maintain a judicious tone!

Sometimes, your area of research and its methods will prompt a DH-tinged exploration, whether or not you are explicitly teaching the tool or platform at the moment. For example, C's research in book history has always involved a fair bit of quantitative work on publishers' sales figures and historical accounts of book production and distribution. It was actually through book history rather than DH circles that she came to use a database to store and organize archival materials (initially in the easy-to-use Apple software, FileMaker, and later in a relational database). This database approach has allowed her to draw much broader conclusions about the book trade during the early twentieth century than would have been possible without an easily queryable way of storing these kinds of records, and have led her to surprising arguments about everything from the gender distribution of authors at a specific publishing house to the national and international circulation of books. This example shows the often hidden power of DH: you can use digital methods to enhance your study of humanistic objects of inquiry, or you can use humanist methods to study digital phenomena and cultures. Whether your method is digital or your topic is digital, what truly

matters is that, as in teaching, you are using digital tools and methods to facilitate the research you really want to do and to make new discoveries.

The ever-growing field of DH research accommodates any of these approaches: doing research on digital pedagogy, using digital tools to analyze humanities objects of inquiry, using humanities methods to analyze digital objects and phenomena, or a mixture of the three. Consider conferences, papers, articles, books, talks, poster sessions, and workshops, which are all great options for doing research in DH. Popular topics include public history, games and gamification, textual editing, text mining, visualization, mapping, and archives. Popular approaches include those related to equality, access, and social justice (often coming from a critical race, postcolonial, intersectional, feminist, or Marxist perspective) and those that study the history of technology (including cultural histories, labor histories, material histories, and New Media Studies). Critical code studies and software studies interpret code as a literary text to be analyzed, whereas other scholars use DH to reconceptualize the history of academia or of DH itself. S, for example, has used her interactions on Twitter to produce an article about gendered norms of scholarly communication on social media (see Ross in "Further Reading"). DH as a field is quite open to experimentation, presentations, and multimedia forms, so you need not box yourself into traditional forms like single-author monographs. Sign up for the Humanist listserv; follow DH scholars on Twitter; and join organizations that we outline in the Web Companion to find inspiring examples.

Collaborating with Students

When you design DH activities for your students, it is important to be sensitive to the difference between using DH methods to help students succeed in your course and using students to help DH projects succeed. You will therefore always want to clarify and communicate the pedagogical value of any DH activities that you ask your students to complete. Connect it to

course objectives, particularly those stated in your syllabus, and find a way for the student's digital labors to be represented in their final grade. Although doing so may not be as utopian as we would ideally like to see (boiling intellectual labor down into grades can feel so reductive, particularly for exciting DH projects), for our students, grades are the coin of the realm. In most institutions, grades are an officially sanctioned marker for their intellectual accomplishments, so this is the simplest way to give your students credit for their work. It is, indeed, the very least we can do.

In many cases—especially when student labor becomes a public asset by being made available online—the student will deserve more credit than simply course credit. If you intend to have your students contribute to active DH research projects, it is ideal to choose or design projects that incorporate lists of contributors. In the case of finding a project that you like but that does not have a mechanism for this sort of attribution, you might approach the primary investigator or manager to inquire about the possibilities for acknowledging student labor. Wherever possible, let the students choose the work they will complete or (even better) play an active role in designing the digital asset from the start of the project. Students should be able to list their work on their resumes or CVs, to find their work when they Google themselves, and to show their peers and even future employers examples of their work if they choose.

You should also, ideally, help give them the vocabulary for expressing their skills and labor into the language of resumes or CVs. You do not necessarily need to draft or revise the student's resume or CV yourself—that is what career centers are made for, after all—but you should be able to articulate the general skills that your activity or assignment requires or develops. In addition to the *Collaborators' Bill of Rights*, mentioned in

Chapter 9, you might also consult UCLA's adaptation of this Bill of Rights (see Di Pressi et al.), which specifically addresses student labor in DH. Essentially, it is best practice to give your students bylines that credit them by name for their work so they can show potential graduate schools or employers what they have accomplished. Giving bylines implies another responsibility on your part: that of maintaining the digital resource so that the byline is still there when an employer or graduate committee member looks for substantiating proof for your student's claims.

Of course, you must balance the byline imperative—the imperative to give students credit—with the students' right to privacy, as we discussed in

Chapter 2. For that reason, it is best to wait until the class is over to make this work (and byline) publicly accessible. That way, the student cannot be identifiable as a student who enters a certain classroom at a certain time. In the case of sensitive or highly personal material, such as a class blog in which the student shares personal details, it may be better not to submit bylines; ask the student to use a pseudonym, only the first (given) name, or initials. In this case, offering credit is not appropriate; ensure that the student's work truly contributes to their education, rather than your, or someone else's, pet project. Finally, remember that it is not fair to require that a student contribute to resources that will be made public: always offer students alternatives to publication. You could offer to allow the student to complete the project and submit it to you for course credit (but not submit it publicly) or design an alternative assignment that incorporates the student's preferences while ensuring that they practice the skills and develop the knowledge base that you originally intended.

For activities outside the formal classroom, such as research assistant (RA) work of any kind, ensure fair pay and labor practices, particularly when the students' efforts may require repetitive or monotonous labor (i.e., scanning texts or doing elementary encoding). S secured a $750 grant for a student to contribute no more than fifty hours of research (no less than $15 an hour) to support her research on digital pedagogy. To make this deal better for the student, she allowed the student to choose the texts that they would work on, offered a budget beyond the student's pay for purchasing those texts, and gave the student the choice to incorporate the work as an independent study course in order to earn recognized academic credit hours. C, through the Modernist Archives Publishing Project (MAPP), has worked with RAs who are always paid at the rate set out by the individual institution. All the RAs for MAPP have also had the chance to choose subject matter for their research, which allows a degree of autonomy and personal investment. (For more details on MAPP's RA practices, see Battershill et al.) C's students have also gone on to use their skills and their (credited) contributions to the project, as well as her references, in application materials that have allowed

them to gain admission to graduate school and to secure jobs in publishing, in libraries, and in the cultural heritage sector.

When student labor requires a high level of critical thinking and scholarly engagement, think of your student as a collaborator: as a student scholar. Opportunities outside the formal classroom, including study abroad, internships, and scholarships, can be highly beneficial to students regardless of whether they are interested in pursuing further research after their studies. Universities often have undergraduate research funds for travel to archives, conferences, or workshops, so seek out these opportunities for students who have shown extraordinary interest in the project or whose work is of exceptionally high quality. Use your disciplinary knowledge to identify special opportunities; S, for example, has located study-abroad funds so that a student interested in First World War poetry can participate in the creation of a digital edition out of the texts assembled at a new archive of poet Ivor Gurney. Because this student has developed DH skills, she will be able to connect with advanced scholars of First World War literature to whom she would not otherwise have access. This is an example of extending to your students the ability to make things count more than once.

Once you have branched out beyond pedagogical uses of DH tools and into DH research, and you have given students credit for their own original research, you will undoubtedly desire some well-deserved credit for your own labors. Making your digital pedagogy and research "count" is a crucial, but somewhat complex, aspect of DH. We do not wish to delve into the nitty-gritty details here (in the Web Companion, ask "Does digital scholarship count?" to find more information about this issue), we do want to reassure that receiving credit for digital work is rapidly becoming the norm in academia. Whether you are a graduate student, fellow, adjunct, lecturer, professor, or administrator, you *will* be able to make your DH work count if you are able to articulate how and why these activities satisfy the contractual terms of your employment.

As Jason Mittell explains in a blog post, "framing matters," and so it is crucial "to give departments and committees references and analogues that are more familiar, while highlighting what makes digital scholarship unique

and important" (par. 13). As you frame your activities in ways that explain how they fit into your service, teaching, or research commitments, consult any set of guidelines produced by professional organizations and higher education institutions in your field for evaluating digital scholarship. These guidelines are powerful resources because they forge connections between digital labor and traditional academic labor and they show how to prove the quality and impact of your work. A guide to these guidelines is also in the Web Companion, where we also link to S's blog posts for MLACommons, which may be of interest to scholars in language and literature disciplines.

Conclusion

In this chapter, we have outlined a natural progression from digital pedagogy to DH research. From publishing on your teaching experiences to publishing research as you apply your DH pedagogy skills to your disciplinary work, and from finding ways to involve students in DH research to treating your students as fellow researchers and collaborators, there are many ways to connect your explorations in teaching with new technologies with your disciplinary research. Although good teaching does not require an active research agenda, many teachers feel additionally rewarded by their efforts to use DH in the classroom when they apply these labors to scholarship. And remember that making these connections will not only help your career or further your research agenda: it will also strengthen your students' knowledge of how your discipline works and how they can apply their work in the humanities to other courses and to their future educational and vocational endeavors.

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11

Teaching in a Digital Classroom

The previous edition of this book characterized digital humanities (DH) as distinct from online teaching as a primary mode of delivery. We wanted to make it clear that, whereas distance learning develops general best practices for every discipline, DH instructors adopt digital tools specifically for exploring humanities concepts and becoming critically aware of the impact of digital technologies. But now, an additional chapter on teaching *outside* or *without* a shared classroom space seems essential. Given that face-to-face meetings cannot, as we write, be regarded as the default mode of delivery, this second edition needs to reflect the widespread adoption of online teaching.

Online teaching suddenly became ubiquitous in early 2020, when Covid-19 interrupted the usual progress of winter quarters and spring semesters around the world. By March, most universities and schools internationally shuttered almost overnight until further notice. Many instructors learned of the closure on Friday and were teaching online the following Monday, while their luckier counterparts used Spring Break to make the necessary arrangements. Students struggled to access books and reliable Wi-Fi connections and instructors struggled to create a best-practices learning experience, while both groups dealt with the emotional and practical fallout of a global pandemic. As we write in the spring of 2021, online teaching is still the dominant mode in most universities in most parts of the world, with a few examples of small classes in

hybrid learning. It is unclear as yet what the 2021–2 and 2022–3 academic years will hold.

Resistance and discomfort on the part of students and instructors alike is bound to be part of this experience as online learning continues. Lee Skallerup Bessette identifies preexisting negative views of online courses as so many instructors teach remotely for the first time. She notes that online courses are often viewed as "a way to offer cheap gen-ed courses over the summer" or, worse, as a "part of the neoliberal agenda to defund the humanities and standardize the curriculum toward tenure-destroying ends." Meanwhile, Bessette observes, the institutions that have developed "the most robust online offerings"—community colleges and regional comprehensives—"aren't the ones we typically look to for leadership in the humanities." We hope here to dismantle some of these prejudices and draw on expertise from instructors teaching at a wide range of institutions.

Because we cannot provide an exhaustive introduction to online teaching, let us first highlight the contents of this book that show what DH offers to teachers who are adjusting to teaching remotely:

- Ideas for crafting born-digital course websites, readings, activities, and assignments
- Methods for maximizing privacy, security, and accessibility in online environments
- Values for deciding what to prioritize and what to let go during challenging situations
- Strategies for preventing or overcoming technical problems
- Critical approaches to the uses of technological tools and infrastructures in a virtual teaching setting

All of these can be found throughout this book. In this particular chapter, we identify general concepts to keep in mind as you manage your online courses and provide more concrete advice in the form of practical tips and software suggestions. Most importantly, we offer a set of pedagogical goals specific to online teaching, paired with a corresponding table of options to help you feel informed about what kinds of tools might assist you with online teaching.

The first step to take when sifting among these options is to acknowledge that in most cases the choice you're making is not "online versus in person." That level of decision may be out of your hands or perhaps has already been made. What you have instead is a choice between a wide variety of online activities, platforms, and modes of engagement, all of which differ significantly from in-person teaching. All of the digital alternatives you consider should fundamentally work with your assigned/expected mode of delivery. Covid-19 has produced, we hope, only a temporary global crisis, but it is also an opportunity to consider online pedagogy an intentional form. Alongside the specific recommendations we give below about platforms, file formats, and software—more of which are to be found in the Web Companion—we are also endeavoring to identify long-term strategies that we might take from this unusual historical moment.

If we sound a bit more tentative in this chapter than in others, it's because we are. We have learned over 2020–21 to become comfortable with uncertainty and do our best while knowing that not everything is going to be perfect and, moreover, that we're probably not going to inhabit our usual level of comfort and expertise. We still feel optimistic that although teaching without a classroom is different, it can still be fun. As Matthew Kirschenbaum put it in a Twitter thread near the beginning of the pandemic, "you may feel nervous, but your students have got this."

Six Goals for Online Classes

This section offers pedagogical goals for online course design. These are the principles that led us to recommend the tools and approaches detailed below. However, if you don't feel like trying out a new software or platform and would like to stick to more bread-and-butter options like Zoom and/or your institution's Learning Management System (LMS), you should. We offer options and possibilities for tools not because we suggest you use them all but rather so that you don't have to seek out lecture capture or podcasting software if that's what you decide you want to do.

Goal #1: Promote Active Learning

High-impact learning is not limited to face-to-face classes. Taking your students to a museum or attending a live performance can be a fairly direct route to meaningful engagement, but we count such activities as a subset of a larger set of practices that education scholars refer to as "active learning." Instructors in all modes who adopt active learning techniques measurably improve learning outcomes (Deslauriers et al. 19251; Wieman 8319). Active learning is based on constructivist learning theory, which holds that "individuals learn through building their own knowledge, connecting new ideas and experiences to existing knowledge and experiences to form new or enhanced understanding" (Brame 2016). Crucial to this philosophy is the notion that instructors are not content delivery systems but facilitators who help students become more responsible for their own education. Active learning courses encourage creative thinking, problem-solving, and decision-making (Waitkus 57). Being student-centered rather than instructor-centered, they ask the students to be cognitively present and to reflect explicitly on the learning process. Many of the activities and approaches we recommend throughout this book focus on cultivating active learning.

A course based on active learning may still include lectures, but they will be shorter, less frequent, interspersed with discussion, and/or supplemented with some participatory medium. Discussions are Socratic in nature—that is, open-ended and intended to stimulate debate and push students' critical thinking powers, not the instructor's predetermined thesis. Activities and assignments are problem-based: students formulate their own questions, engage in extended sessions of brainstorming, and design their own research agendas. A significant percentage of graded work may be collaborative in nature, emphasizing cooperation over competition. Written reflections on what the students have learned are assigned periodically (say, self-assessments that append each major assignment) or at the end of the course as the foundation of a final portfolio.

These principles are implicitly in DH pedagogy, which encourages problem-solving and creative thinking as students experiment together with digital tools to make a range of objects. Because of its investment in using, making, and critiquing digital tools, DH encourages active learning in ways that transfer

especially well to online or hybrid contexts. For an online course, consider using more assignments featured in

Chapter 6 than you might in a face-to-face course, and using Table 11.1 to facilitate the activities featured in

Chapter 4 to a virtual environment.

Also consider social annotation, group chats, and other modes of engagement beyond discussion-based teaching in order to engage asynchronous classes through different but equally active modes of participation. One of the most effective ways of encouraging active, discussion-based learning if you're teaching synchronously with Zoom is to use breakout rooms in combination with one of the digital whiteboards recommended below. This will allow students to interact with each other (something they really miss in the online environment) and will allow you to see the notes they generate within their breakout rooms in real time. C has found that the most effective way to encourage a productive session like this is to give each group a different prompt (or question, or digital exhibition to visit) and have the group report back to the whole class afterward about their findings.

TABLE 11.1 *Collaboration Technologies for Promoting Active Learning*

Name of Tool	Similar Tools	Description	Pros	Cons

Name of Tool	Similar Tools	Description	Pros	Cons
Padlet	Wordpress and/or other blogging platforms, Stormboard, Mix, Ideaflip	A dynamic collaboration platform that allows you to include "posts" in a variety of media and allows students to collaborate and share work and research.	Aesthetically pleasing interface, easy to use, flexible format, integration with a number of other apps. Excellent support. This board is a good starting place: https://padlet.com/gallery/tips). Great for brainstorming.	The Pro and "Backpack" for Education versions require a paid subscription. There may be privacy concerns for the non-Backpack versions so a careful approach to privacy settings will be key.
Slack	Google Hangouts, Chanty, Hive, Fuse	A popular communication app for discussions, sharing links, and real-time chat features.	Excellent for building community and getting your students chatting more informally. Easy file sharing, easy to use. Free.	It might duplicate the "discussion board" function on your LMS, so you'll likely want to choose one or the other. Requires students to create accounts, and so on.

Name of Tool	Similar Tools	Description	Pros	Cons
Conceptboard	Miro, Stormboard, Limnu, MURAL, Whiteboard Fox	A digital whiteboard app with real-time visual collaboration features.	Great for complex brainstorming and information gathering, offers interactive annotation but also images and diagram capabilities. Real-time updating allows you to see changes as they happen.	There are some limits on free accounts and your students will need to sign up.
FlipGrid	YouSeeU, VoiceThread	This video discussion platform allows you to create "Topics" and students to post video responses. It's designed as a social learning environment.	Can create a sense of community through video posts especially in asynchronous settings. Students do not need accounts but can be given a code to join.	Your students may be uncomfortable posting videos of themselves even if privacy settings are highly controlled.
Hypothes.is	eComma, eMargin, Lacuna, Google Docs	This social annotation tool allows users to annotate anything on the web and share those annotations with a group.	Open, free, and principled software. Very flexible. Allows students to see each other's thoughts and marginal annotations, which can promote active learning. Offers LMS integration.	A tiny bit of a learning curve for students and a bit of an explanation of exactly what it does and how it works. Some class time might need to be devoted to this.

Name of Tool	Similar Tools	Description	Pros	Cons
Piazza	Glisser, Prulu, Hypersay	Q&A platform in a wiki-style format.	Highlights time-sensitive questions and creates a dynamic discussion board experience, including features like polls. Has LMS integration and a LaTeX editor.	Slightly clunky interface.
TopHat	Many of the features here are fancier versions of features already in many LMSes like Canvas and Brightspace.	A "learning community tool" with enhancements like multimedia reading integrations, attendance trackers, assessment tools, and discussion boards.	A multifunctional tool that might allow you to add this one enhancement to encourage active learning without relying on too many different platforms. Also integrates with most LMSes. Free basic package for instructors.	Pro-subscriptions are not free. Integration with your institution's LMS may not be straightforward. Coursepack creation features may not correspond appropriately to your library's institutional resources.
DropThought	Google Analytics plus other tools	An engagement tool with analytics.	Simple, clean interface.	May be somewhat a limited use case compared to other tools.

Name of Tool	Similar Tools	Description	Pros	Cons
Discord	Slack, Microsoft Teams	A platform for small communities that supports text, image, video, and audio chats. Live screen-sharing can be used to conduct virtual synchronous class sessions.	Popular with students due to its Twitch integration and friendly interface. In the wake of COVID, the company has given teachers the ability to hold live chats with up to fifty students at a time.	Granting access to each individual user may be time-consuming for the teacher. The company could cease offering free services for teachers in the future.

Goal #2: More Is Not More

Make "shorter" and "fewer" your watchwords. Ward off the temptation of compensating for the perceived drawbacks of online teaching by overproducing. Your time is better spent in offering meaningful contact, not providing extra content. Establishing pedagogical relationships should be a high priority, and if that means teaching one fewer concept, text, or school of thought in favor of following a digression or experimenting with collaboration platforms, so be it. Your students will be more engaged if you ensure that what you *are* teaching is delivered successfully; this may be more important than focusing on adding additional materials beyond what you would provide in an in-person setting. What students need from you is clarity, and clarity comes from a curated selection of well-organized materials with obvious takeaways.

Recorded presentations—remote substitutes for face-to-face lectures—are the bread-and-butter of asynchronous online classes, so they are worth discussing in detail. You can keep your student's attention for longer if your recorded lecture has some of the polish of a professional podcast, which is

generally based on a well-written script, recorded on a quality microphone, enhanced by a soundtrack or sound effects, and edited carefully. This does not mean you must purchase a new microphone (although it is certainly worth asking your institution to provide you with one). Rather, it means that you'll want to make strategic decisions about how to allocate your time. If you judge that your time is better spent somewhere else than in editing videos or podcasts, then consciously invest it elsewhere. In Table 11.2, you'll find some suggestions for apps and programs that simplify video capture and editing.

TABLE 11.2 *Video Capture and Editing Tools*

Name of Tool	Similar Tools	Description	Pros	Cons
Quicktime	Apple's Media Player	Media player that also allows for video recording	Easy to use and most likely already the default media player on your computer. You can then upload these to a private YouTube channel	Although recording is possible, this is designed more as a player so has fairly limited features.
OpenShot	iMovie, Adobe Premiere Pro, Camtasia	Video and film editing software to make little movies	Can be fun and exciting	You may want something more straightforward to capture lectures.
Zoom	Skype for Business, Google Hangouts, Microsoft Teams	Video conferencing software that has recording function for video and screensharing	You're mostly likely already using Zoom for communication, so you can record video here without learning a new tool	The file format of the saved recordings can be clunky, and Zoom still has some security issues.

Name of Tool	Similar Tools	Description	Pros	Cons
Panopto	Opencast	Video recording and webcasting software	Has a useful "Education" support section with specific advice about recording lectures	Designed for corporate and wide audiences so you may wish to check privacy settings.
WeVideo	Filmora, Animoto, Screencast-o-matic	Cloud-based video editing	Extremely approachable and simple; works on smartphones; allows collaboration	You have to purchase a paid plan if you want videos over five minutes long.
Screencast-o-matic	Zoom, Panopto	Cloud-based screen recorder and video editor	Has both a browser-based version and a desktop application version	You have to purchase a paid plan if you want videos over five minutes long.

Goal #3: Diversify Your Formats

In remote settings it is crucial to offer different kinds of materials that will reach your students in a variety of ways (an axiom first broached in

Chapter 2). We outline some of the options in Table 11.3, keeping in mind that it's ideal to cultivate a balance of audio, video, and written materials. Each medium has its own affordances; for example, podcasts (rather than videos) are more easily downloaded and accessed through headphones while the student is commuting, exercising, or sharing a space with family members. It is also useful to make sure your students know how to reach you in a variety of ways (e.g., by email and through your institution's LMS) and potentially to access materials both with and without Wi-Fi. Downloadable options, especially for asynchronous materials, are really helpful for many students.

As ever, although especially in online modes of delivery, make sure you have backups on multiple platforms. In other words, don't store everything only on your LMS, and don't have a single point of failure if you can help it. When possible, provide multiple file formats of course materials (PDF, HTML, plain text), ideally with one of them being easy and fast to download and interact with offline. Redundancy minimizes the chance that the single link you provided breaks, the library subscription to some resource expires just before your course meeting, or your student misses a reading because they cannot access a desktop computer over the weekend. Finally, make these options obvious and available to students (a brief screencast "tour" of your LMS setup, discussed below, will show students the options you provide).

TABLE 11.3 *Powerful Modes for Virtual Content Delivery*

Name of Tool	Similar Tools	Description	Pros	Cons

Name of Tool	Similar Tools	Description	Pros	Cons
Explain Everything	OpenBoard, Microsoft Whiteboard, Lensoo Create (for tablets), lower tech alternative is an actual whiteboard and marker in your teaching space, which you can set up your camera to display.	A digital whiteboard app	If you love using the whiteboard while you teach, this can simulate that experience, especially if used as a second screen in synchronous video seminars.	You probably need to have neat printing and/or some artistic and/or diagram drawing abilities in order for what you write to be legible. Optimal use requires a stylus and tablet.
Loom	OBS Studio	A screen recorder that can overlay video of your face speaking over any screencast	There are documented accessibility benefits to being able to see a person's face when they're speaking. Easy to use and share, free for educators.	You'll want to be a bit more conscious of facial expressions while recording and it can sometimes be tricky to make "eye contact" with the camera and navigate at the same time.
Studio (in Canvas)	Private YouTube channel with comments	An LMS-integrated media interaction platform	Allows users to comment on specific moments in a video. Integrated with Canvas if that's your LMS.	Not accessible if your LMS is not Canvas.

Name of Tool	Similar Tools	Description	Pros	Cons
Screencast-o-Matic	ShareX, Captura, Kazam	A screencast creator	Very useful for giving your students a tour of a website or capturing diverse materials you might have on your computer.	These can get tedious if too long.
Audacity	Apple Garage Band, Adobe Audition, Opinion Podcasts, Voice Record Pro 7, Ferrite Recording Studio	An audio recording and editing software for making podcasts and audio-only lectures	Providing some content in the form of podcasts can allow your students to learn in diverse settings and may reduce time pressure and stress (i.e., listening to a podcast while walking the dog or washing the dishes).	Can be a finicky and time-consuming process to get podcasts just right.

Goal #4: Simplify Your Students' Experiences

"Wait!" you might object. "Didn't you just tell me to diversify my course materials? Now you want me to simplify?" Well, yes! While you want to use multimedia and multiple file formats, any other aspect of the course that can be simplified (such as the design of the course website or the rhythm or your course schedule) should be. Imagine being a full-time student taking 4–6 online courses. One instructor might use a template course shell from their institution's official LMS, while two others use the same LMS in their own idiosyncratic ways. Two other instructors might use a clutch of technologies they personally prefer, one of them relying on Slack for communication and YouTube for hosting

lectures and the other on Microsoft Teams for communicating and GoogleDrive for uploading slideshows and handouts. Still another might have a custom-built website that includes blogging or wiki software that students must post on. In the midst of this bewildering array of expectations, students will appreciate a streamlined course. And if you do ask your students to engage with multiple platforms, make sure that what it offers is adding so much value that it's worth the extra hassle.

A well-designed course is not an overdesigned one. Incorporating too many types of assignments or tools, each one with its own learning curve, will frustrate your students. The less time they spend clicking around a new navigation bar, signing up for a new user account, or checking the syllabus to confirm where their homework needs to be uploaded, the more they can focus on the course itself. In addition, try to reduce the number of different locations students must navigate to. For example, use browser extensions and plug-ins to allow various apps you like to use (like GoogleDrive, YouTube, and Screencast-o-Matic) to connect seamlessly to your course website or LMS shell. You could be using multiple types of files and tools, but the students will perceive it as simpler if they are always within their course shell. Streamlining your course will help you stick to your primary goals for the course and communicate them to your students. It will also give students time to become proficient in the tools and assessments you prefer. To continue with the Slack example, true proficiency and comfort with a platform like that which is commonly used in workplaces will be a more valuable skill for students than jumping around from tool to tool.

Goal #5: Specialize Your Investments

A combination of temporary crises and ongoing problems of resource inequality has left many instructors short of the time, money, and training it takes to use the perfect digital analog for every single thing they like to do in face-to-face classes. We must prioritize. What is the technical skill that you'd like to invest your time in? You might want to make enjoyable videos that will appeal to the public as well as your students. Or you might decide to specialize in finding ways to cultivate community among your students.

In the absence of strong personal preferences, consider your course objectives. Which platform, tool, or software is designed in a way that furthers them? Beyond your course objectives, consider these other concerns, which will help you get the most "bang for your buck" as you invest your time in it. Which option will:

- benefit your students most in their future courses and in their professional careers?
- contribute most directly to your department or institution's mission?
- work seamlessly for your other classes as well?
- help your colleagues (if you decide to create tutorials, facilitate workshops, or share your syllabi and other course materials)?
- streamline or enhance your own research?

You may find yourself giving up a particularly compelling assignment or tool, but keep in mind that it will help your students streamline their lives as well.

Goal #6: Clear Communication and Lots of Feedback

Without the spontaneity of after-class questions and chat among students, it is extra important to keep an open line of communication. We'll offer some strategies for keeping this going in the section below, but gathering extra feedback, incorporating student input, and articulating and repeating your expectations (in terms of everything from the mechanics of assignment submission to Zoom etiquette) are vital to successful online courses. A midsemester survey could suss out what's working and not working in your course's present configuration, allowing you to course-correct before your students become too frustrated or confused. In addition to the survey tools we have suggested (see Table 11.4), some of the communication tools listed above like Slack and Piazza can also enhance and encourage a chatty and open online class.

TABLE 11.4 *Using Surveys to Solicit Student Feedback*

Name of Tool	Similar Tools	Description	Pros	Cons
SurveyMonkey	Google Forms, Straw Poll, Typeform	Survey tool	Can be a quick and easy way of gathering informal feedback from students throughout the semester. Doesn't require any kind of login from your students.	There may be equally useful polling or survey functions within your LMS

Nuts and Bolts

Course Orientation

Kick off your class with stellar communication with a course orientation that shares the same kind of information you'd provide on the first day of class—plus a little bit more information. As Riggs and Linder point out, the very classroom helps students understand their responsibilities; in a lab setting, they stand facing equipment on the table, while in a seminar room, they sit down facing other students democratically, and in a lecture hall, they face the instructor hierarchically. Without these cues, you must make it a special point to articulate the purposes of the class and explain how the ways you structured the course contributes to them. An orientation video that provides an audio voice-over of you navigating the course website (Screencast-o-Matic is one such tool you can use) could provide a tour of the syllabus and a demonstration of the key features of your course's website or LMS shell. A "Welcome to the Course" tab on an LMS or a lengthy course orientation email can also work, but you might end it with a short quiz or simple request ("share your favorite book on the discussion board") to check that students have absorbed the information.

The orientation should specify what you expect from your students and what they can expect from you:

- How often will the student need to log into the LMS/course website?
- How often will you be logging into the LMS/course website?
- How long will it take you to answer an email? Are there specific times you set aside for email? When are you not available (such as weekends or evenings)?
- Which tools or parts of the LMS will they be using?
- How will you send course announcements?
- What are the major milestones in the course, and when do they occur?
- If there are changes to the course, how will you notify them?
- If applicable, what video chat etiquette do you expect students to observe (muting microphones, using the chat, raising hands, or asking questions)?

If you are comfortable with sharing a little about yourself, recount how you became interested in your chosen field or some nonsensitive personal tidbit (maybe you rollerblade with your dalmatian Spots or you bake all the winning recipes from the *Great British Bake-Off*). More formal teachers can summarize their ongoing research projects. Any of these disclosures will welcome students and remind them that you are a living, breathing human being, not a robot (more important when they can't see physical evidence!) And finally, if you ask the students to use any particular technology or website, you must explain how to use it with a demonstration video, a series of screenshots, or written instructions. Doing this at the beginning of the term—even reserving some time on the course schedule to it—will solve a lot of problems before they emerge.

Synchronous versus Asynchronous Modalities

Traditionally, face-to-face classes are synchronous and online classes are asynchronous (which is why online learning appeals to students with extensive job and family commitments). Of course, the reality has always been a bit fuzzier; hours spent attending face-to-face classes are always supplemented by students reading, studying, and completing assignments on their own time, while some online classes are better classified as "remote learning" because they operate exclusively through asynchronous means. The proliferation of new

course formats after Covid-19 (Hy-Flex, anyone?) has blurred the line further. One way to simplify your course design amid this jumble of experimental formats is to concentrate on synchronicity. Is the course fully asynchronous, fully synchronous, or somewhere in between (and if so, does the class lean toward one pole)?

Each decision you make should make good use of the greater flexibility and independence offered by asynchronous means or the greater structure and collaboration offered by synchronous means. Synchronous classes are a natural fit for major group projects, whereas asynchronous classes can feature more independent research projects. Asynchronous classes might benefit from periodic, mandatory email check-ins, which could be a replacement for synchronous office hours. By contrast, asking students to take a synchronous class and require them to attend multiple virtual one-on-one meetings might be too much for their schedules. Whenever you need to "go against the grain" of your course model—injecting some collaborative work into asynchronous courses or some more self-directed learning into synchronous courses—you both can and should! You'll just need to put in some time making sure it will work. For example, if you expect students in an asynchronous class to do a good deal of collaborative work, identify an easy-to-use, reliable platform for group communication, then devote time to teaching them how to use it well and provide students with a mechanism for honestly assessing the contributions of each team member. Padlet and similar suggestions in the table above can be useful in this respect.

Wherever possible, cultivate a balance between asynchronous and synchronous means so that independent, self-directed learners and more social, cooperative learners can thrive. In practice, this is a balance that you likely achieve through in-person classes without trying (readings, assignments, and sometimes discussion boards are asynchronous work and seminar discussions and class presentations are synchronous). You can translate this balance pretty closely if, for example, you have a seminar class that will still meet synchronously on Zoom and that will be supplemented with readings and assignments to be completed asynchronously. For lecture formats or particularly large classes, you may need to be more creative.

Active learning principles suggest one ideal format for maintaining the balance between cooperative and self-directed learning: use asynchronous means for students to engage with recorded lecture materials, instructions, and course texts, while reserving the time slots allotted to synchronous instruction for discussion, peer review, group work, or workshops. If, like most instructors, you're doing a mixture of all these, it can be helpful to your students if you design your syllabus or LMS/course website to make it visually obvious which elements are synchronous and which are asynchronous. Hybrid courses, which sometimes meet face-to-face and sometimes virtually or asynchronously, can be ideal for this arrangement, but a fully online course can achieve this with the use of chat services, videoconferencing, and other collaboration platforms. If you are tasked with a fully asynchronous course, it will be essential to make more of an effort to provide opportunities for collaboration and idea exchange.

To cultivate this balance between asynchronous and synchronous course elements, consult Table 11.5. Not every part of your course (lecture, discussion, office hours, feedback) needs to be fully synchronous, but at the same time, a course that makes use of only fully asynchronous options may not keep your students engaged. Invest your time in synchronous options that match your strengths and preferences, but limit them so your demands do not require more resources than your less-privileged students may have (e.g., unlimited data plans, desktop computers, or high-quality headphones). Balance the demands synchronous options place on your (and your students') time to maximize contact and interactivity without taxing your (or your students') energy. A well-balanced course will likely make use of options from all four columns in Table 11.5.

TABLE 11.5 *Options for Balancing Synchronous and Asynchronous Course Elements*

	Fully Asynchronous Option	Enhanced Asynchronous Option	Basic Synchronous Option	Fully Synchronous Option

	Fully Asynchronous Option	Enhanced Asynchronous Option	Basic Synchronous Option	Fully Synchronous Option
Lectures	Text-only reading guides or slideshows with text and image	Podcast (audio with script) or prerecorded video (with closed captioning)	Prerecorded video or audio with option for user annotations or comments	Live videoconference
Discussions	Full-class asynchronous discussion boards	Small-group asynchronous discussion boards	Longer live chats with full class	Shorter, more frequent live chats with small groups
Office Hours	Basic email (all emails are answered within a certain time period during regular business hours)	Enhanced email (in addition to basic email, emails submitted during certain predefined periods are answered immediately)	Basic or enhanced email plus a regularly monitored Q&A discussion board or small-group tutorials	Virtual synchronous office hours (e.g., on-demand videoconference)
Feedback	Written or recorded feedback by instructor after submission	Written or recorded feedback by instructor before and after submission	Written or recorded reviews by instructor and peers before submission; written reviews by instructor after submission	Periodic feedback from peers and instructor during stages of a scaffolded (term-long) assignment

Modular Schedules

Establishing a regular rhythm will help students absorb, at a glance, what is required of them. S's asynchronous online courses consist of units that last precisely two weeks. Each unit has the very same structure. It begins with a course announcement that reiterates the students' duties for the unit. During the first week, students listen to an introductory podcast and then complete course readings. By Friday, they turn to Twitter for sharing their thoughts with other students. They respond to other students' tweets by Monday. Over this second week, they listen to a shorter podcast before embarking upon a small project. Throughout the second week, she continues to draw out the students' Twitter discussions and fields questions about projects by email. That Friday, their deliverable is due. Rinse and repeat.

As Riggs and Linder point out, modular course structures provide all of the necessary information and resources for the unit within the module itself. Rather than divide your course materials into "Readings," "Assignments," and "Tests," which would require students to dip in and out of various folders, searching high and low during a single unit, create a folder for each unit that has everything they need. As a result, "students can feel more assured that they are not inadvertently missing something critical." Riggs and Linder also note that setting modules up as questions promotes active learning. A rhetoric course might include a unit called "What's So Bad About the Sophists?" instead of "The Second Sophistic Movement," while a cultural anthropology course might include a unit called "Do Cultures Change Over Time?" instead of "Diffusion, Acculturation, and Pluralism."

Office Hours

Fully asynchronous courses may not require synchronous office hours; in this case, be as responsive to email as possible during the time periods you have designated as "email hours." For remote courses with synchronous office hours, office hours will feel different but remain crucial, maybe even more so. One-on-one conversations with students, where possible, will likely be extremely helpful in letting instructors and TAs (teaching assistants) know how all of this is going. Practically speaking, optional office hours may not have a ton of

uptake in digital environments. You may find it better to have a required, short session once per semester to check in with each student.

If this sounds like a lot of work … it will be. But the benefits will likely be significant in terms of student investment. An hour you save recording yet another lecture can be divided into 10-minute chats with 6 students, or even groups of 4 or 5, and the students will for the most part be very, very happy about it. Accept help from your TAs if you have the option, but if you don't have TAs, small group check-ins could also work well.

Lectures

Consult Tables 11.2 and 11.3 for an overview of different platforms you can use for sharing lectures. Whether you prefer a simple audio lecture, a polished podcast, a YouTube video, or a slideshow supplemented with running commentary, the final product should be shorter than you think. If you can leave something out, leave it out. Keep in mind, as well, that the larger number of lecture-equivalents you expect your students to absorb, the shorter each individual episode or track should be. Your weekly content should not be longer than you would ordinarily lecture in a face-to-face class each week. This rule of thumb agrees with podcasting experts, who recommend recording between fifteen and sixty minutes of audio per week (Lewis 2010).

How you choose to divide that time into multiple lectures or keep it in a single file will depend on the course rhythm as a whole. Putting all your lecturing eggs into one basket will benefit a course that features long readings and intensive assignments, whereas a class with many stages of readings, homework, and discussion within a unit may require shorter, more targeted lectures. In the past, S has favored creating multiple, shorter podcasts per unit for lower-division survey courses because they keep nonmajors engaged. By contrast, for upper-division seminars, she cuts a single thirty-five to forty-five minute podcast per unit, which allows her to create a coherent, complex argument suited to students far along within the major. These longer lectures are arranged into subsections so students may divide their listening over multiple sessions.

Discussions

One of the most difficult things to transition online is meaningful discussion. How do you orchestrate spontaneous, enjoyable, and generative whole-group discussions without consistent eye contact and reliable interpersonal cues? Your students are likely already communicating with their friends and/or grandparents and/or coworkers on Zoom, in addition to their other classes, so adding more screen-based discussion to their lives needs to be done sensitively and carefully. This being the case, a multipronged, layered approach might be helpful to reduce the pressure on simply recreating a whole-group seminar atmosphere in the Zoom Room.

Some combination of whole group, small group, and individual meetings might help alleviate some of the pressure that the whole-group format can put on students' contributions. Because shorter sessions are preferable to long ones, you can facilitate more small-group discussions than you think. In some courses, S devotes all the time allotted by the university for the course—two seventy-five minute sessions per week—to small-group discussions. She divides each of the two sessions into two small sessions, for a total of four 30-minute discussion sessions. Each student is assigned to one of these four sessions. Each session begins with five minutes of informal welcoming to allow everyone to assemble; between the two sessions is a five-minute break for S to get some water and stretch.

Prior to discussion, make sure students understand what's expected of them. You might specify that students should keep their microphones on mute, indicate they wish to speak by using the "raise hand" feature, and turn their webcams on. However, because students may need to be off-camera from time to time, you may want to offer some flexibility on this matter. Tell them how the text chat box should be used, keeping in mind that quiet students may prefer typing their comments. Decide whether students may share your materials and, if so, specify your terms (it is your intellectual property, after all!) Some intentional ice-breaker-like activities can be helpful if the atmosphere seems quiet at the beginning; at the end, use the "exit ticket," a strategy developed by CUNY's Cathy Davidson. This simple technique—students "write down one question or follow-up or issue or problem they had wished they had been able to ask," and

you “collect the tickets and build a follow-up class around those”—can be easily adapted to virtual classes to create a sense of intellectual continuity between sessions.

Consider adding variety to your discussions by varying their content. One discussion could feature role-playing, in which students occupy a hypothetical subject position while they answer (see Waitkus). Another could feature a mini-research quest: designate a few minutes for students to consult their course texts or the internet. This practice provides a welcome change of pace that happens to be intellectually rich. At the end of each session, identify clear takeaways and recapitulate what’s coming next. And don’t forget that brainstorming or freewriting sessions not only translate perfectly to an online environment but also give students a chance to blink, stretch, and get away from the screen, as well as offer a convenient medium for students to ask you individual questions outside of office hours.

Building Community Online

Many of the recommendations we give above are motivated by an awareness that online learning can be lonesome. To mitigate the feeling that students are facing a screen instead of joining a community of learners, experiment with strategies for creating a shared learning experience. As always, learn your students’ names and encourage students to refer to each other by name. During lectures and discussions, personalize the course through timely references to particular students’ contributions. Maybe last week, Lin had a breakthrough in her reading journal that could help the class link Kantian aesthetics to their everyday lives, or Manuel’s rough draft included a model literature review on the history of behaviorism. Small-group discussions about recorded lecture materials can liven up those recorded files; for live lectures, allow students to use text chatting boxes to engage in backchannel conversations. In general, be willing to offer more feedback on student work, more reminders about upcoming duties, and more explanations of how each activity or assignment will contribute to their knowledge.

Because these strategies take time, we recommend sizing down on your content! You need to find that extra time for more interaction somewhere. But remember that it's not all on you. One bonus of the digital is that you can recruit guest lecturers from nearly anywhere; you could arrange for lecture exchanges with colleagues from other institutions. Virtual field trips to museums, galleries, libraries, and archives with rich online materials can also give you a break from creating course content all on your own, freeing up some time for interactions.

More to the point, if your students are not participating directly in community building, it's not really a community. Provide opportunities for informal chats in any synchronous meetings by adding some time before or after class in case students wish to talk to each other, or encourage them to interact with each other over GroupMe or Facebook. In a small class, each student could also lead one discussion during the term; in any size class, they can take communal notes on a GoogleDoc. Students could also help design course content. Leave one section of the syllabus blank and poll students about their preferences. Give them as much or as little latitude as you like; you might simply offer Choice A and Choice B, provide a list of choices, or leave the choice up to the students (after referring them to high-quality online reference materials). One final idea comes from Davidson, who empowers her students by asking them to draft and ratify a "course constitution" or (if you want something faster) a "mission statement."

Group Interaction Ideas

Because small groups can help make cold platforms friendlier, prioritize interactions that occur between few participants. C uses Reading Circles, chats that occur every unit but only last 10 minutes each. She uses them as a method of supplementing optional office hours. A variation of this approach is outlined by psychologist Lisa Feldman Barrett, who argues that the British tutorial system provides a wonderful model for online student engagement:

> In the classic tutorial system, students do most of their learning in small sessions that include the professor (or an assistant) and just a few other students. … Courses may also include larger lectures and traditional exams, but the tutorials are where the main action happens. … A modified tutorial

system could foster a more rewarding learning experience online. Professors could record lectures on video for later viewing, annotate them with required and supplemental readings, and then schedule live video tutorials with, say, four or five students each.

If you cannot be present for small-group work, consider the approach developed by Danielle Kinsey, a historian at Carleton University. In her online courses, students remain in the same small group for the entire term. Each group holds a weekly asynchronous chat about that week's lecture. A different discussion leader hosts the chat each week.

Provide ample directions for these small-group interactions, or the conversation might flag. What topics do you want them to cover? And how structured should these exchanges be? Students could interview one another about course content, taking turns to ask questions they have prepared in advance for. Or students could begin with five minutes of freewriting and then share what they wrote. Groups could also discuss one another's homework and assignments, even making the discussion a workshop space for peer review before a project is due. But they could easily occur just after a project has been turned in. S likes to ask students to share their work *after* it's complete. Because students are often intellectually and physically tired after big projects, it's considerate to let students earn participation points simply by sharing what they accomplished, rather than having to dive immediately into a new unit.

Rethinking Discussion Boards

Discussion boards are a fairly old technology, but they can promote community if used strategically. Explain to students that effective posts are concise but concrete. The style is often more approachable than formal academic writing, but posts should be proofread and sources cited. If you adopt discussion boards for short, regular homework assignments, open threads with very specific, but open-ended, questions so that students will not repeat one another's answers. Incentivize students to respond to one another. In the comment section below a few of the first posts, provide sample feedback that models how to offer useful criticism that can improve each other's arguments. An early assignment could involve students contributing to an "introductions" thread. A Q&A board could

allow students to ask and answer questions about the course (just be aware that students may expect you to monitor it regularly to catch any questions that cannot be answered by peers). Melissa Wehler recommends setting up a "water cooler board" that lets students discuss nonclass concerns. This is especially important if your students are taking all of their classes remotely. Finally, make sure to monitor all discussion boards to ensure that respectful discourse is occurring and that all students are abiding by your online etiquette guidelines.

You can also think beyond text. Shannon A. Riggs and Kathryn E. Linder, who call for a wholesale "re-imagining of discussion boards as interactive spaces," point out that many discussion boards can be used for students to post files (1). Students can share video introductions, slideshow presentations, or audio clips. Even a primarily text-based board can be exciting if your prompts encourage "conversation, analysis, debate, illustration, application, synthesis, and reflection" (7). Practically speaking, this means not asking students to summarize readings or list facts. To avoid repetition in students' posts, you may offer multiple questions that students could answer. C has used Padlet (embedded within her institution's LMS) to create a "Community Board" for her class that offers a visually appealing and media-rich environment for engagement.

Another way to promote active learning is to make the discussion board a space of metacognition. Design your prompts so that students must reflect on what they've learned. For example, students could finish each major post by answering a reflection question—such as "What was the problem that motivated you to write this post?" or "What research, reading, or other activity did you have to do to write this post?" One student-centered approach is outlined by Caitlin Krause, whose students explicitly chose particular roles to occupy. These roles determined the kind of content they contributed to their small-group board:

> Some preferred to play the "lexicon builder," collecting new terms we encountered and finding out the etymology, definition, and connotations. Others were "reference archivists," collecting useful related websites, readings, and sources. Others chose to be "curators" who researched the sites and evaluated their validity and sources, further placing them in context of the learning focus. Some

> preferred to create mind maps of related terms and links to increase their relevance, or artistic models and creations inspired by responses to the learning. (Krause)

These roles are great examples of the metacognition that characterizes active learning. They could certainly be adopted in a class-wide discussion board, or shared with students as models to guide them their annotation assignments or regular blog posts.

Accessibility

The concepts and suggestions in

Chapter 2 are as essential to online classes as they are to in-person classes. All the images you incorporate should have alt-text, all the podcasts you cut should have scripts appended to them, all the videos you share should have closed captioning, and all of the documents you share should follow good information hierarchies (e.g., an explicit system of headers) to make them manageable for screen readers. Allow students record your lectures or discussions, and ensure all other audiovisual materials can be paused or replayed. Consider using Loom to create screen recordings that incorporate a picture of you, the instructor. If you create a course website, use an accessibility checker (such as the WAVE browser extension) and make the necessary corrections. If you are using a course LMS, use that service's in-built checker (such as Blackboard Ally or the Accessibility Checker included at the bottom of the Canvas New Rich Content Editor).

Acquire the habit of checking your materials before circulating them. The principle of Universal Design specifies that making "accommodations" after-the-fact is not true accessibility; instead, build your online course with accessibility in mind. All of your students will appreciate the enhancements offered by accessible digital materials. For more information, consult

Chapter 2.

Anticipating Challenges

University instructors often resist online teaching because it does, indeed, offer many unique challenges. But many of these can be ameliorated with some advance thinking.

Resource Scarcity

One of the primary problems with emergency online teaching—when students did not expect to be learning remotely—is that it requires students to have a working internet connection. This can be a major accessibility barrier. If your student body is disadvantaged, this would be the ideal situation for a fully asynchronous delivery of your course because it allows maximum flexibility. As we note above, whenever possible, make your course materials downloadable so they can be viewed offline. Remember that if students are stuck at home, they might not be able to access support networks—from fellow students to libraries. They need you to understand that they do not have a private, professional-looking space that looks good on Zoom, and they might request free copies of the course readings. Consider assigning only readings that can be accessed freely online or arranging with your library to host digital reserves. See

Chapter 1 for more ideas about providing online materials for your students.

Do not assume all students will be using a desktop or laptop. Some students will mostly or entirely access your course through their mobile phones. (If you doubt this, poll your students. You may be surprised!) This is another reason to keep your materials short and to the point; small file sizes work with any data plan. In addition, make sure to preview all of your course materials by viewing them on a smartphone. Information that is prominent in the desktop version of an LMS may be omitted entirely or only accessible if you click a series of tiny, obscure buttons. Streamlining your course shell—for instance, don't place some instructions in the "comments" section on the LMS but others on a downloadable file—will ensure that students do not have to click through a confusing maze of hyperlinks. Also, you might find that your beautifully customized course shell, high-resolution visuals, or big video files don't translate well to the mobile environment. Test these enriched materials early on, before all the course materials are created and edited. If they can't be seen on a mobile phone, invest your time elsewhere (like virtual student contact hours).

Material Learning

For those who teach with particular materials in the classroom setting, whether in MakerSpaces, arts studios, or using props or objects in a regular classroom, the shift to online can feel particularly daunting. This has been a significant issue for C, who teaches Book History using a lot of hands-on activities like bookbinding, ink making, and paper making. Many of these activities can be adapted using DIY and household goods approaches to creativity and making meaning. Students can undertake at-home art challenges (like the challenge sent out by the Getty Museum's Instagram account), bookbinding with dental floss and printer paper, and construction or modeling using recycled cardboard.

Another option if specialized materials are useful or essential to your course is to have your students buy a set of materials instead of books. Matt Kirschenbaum and Ryan Cordell had their students purchase an affordable home bookbinding (see Peiser, Spunaugle and Kirschenbaum in the Further Reading section). This approach might be translated to a variety of contexts and subjects by making arrangements with sellers and distributors of supplies to create

specific supply kits for your class. You could also send your students parcels of materials in the mail, as C did. This may be more time-consuming, but could also add some personalization that your students might appreciate. You might be able to work with your institution to find some internal grants or use campus mail delivery to accomplish this (see Boyels and Peterson in the Further Reading section).

Caregivers and Mental Health

Mostly asynchronous courses can also be ideal for students who lack a quiet place in their homes at a set time to participate in the discussions. Fully asynchronous delivery is also a boon for those with caregiving responsibilities, those who live in rural settings, and those who share devices with family members also working remotely. These students might really struggle to participate in remote synchronous teaching. However, conducting a fully asynchronous course can make it difficult to create a sense of community among students. Active learning principles can still be applied here, particularly in low-bandwidth chat formats and in discussion boards or asynchronous chats that pose critical questions. Keep in mind that many of these asynchronous students will need you to be flexible in terms of offering one-on-one office hours–style meetings so they may speak to you directly.

With remote learning, we are experiencing a shift from the home as separate from the university to the home as a space of scholarship, learning, and teaching. This can force an interrogation of the classroom space as a determinant of educational outcomes. What happens when we move from a university environment to a home environment? It might be helpful to work with your students to critically interrogate the ways in which thinking of the domestic sphere as also a professional/educational sphere changes our notions of privacy, labor, and domesticity. Some critical readings on this subject might help your students feel more comfortable when their cat jumps onto their laptop or their two-year-old appears covered in paint. Finding the humor and enjoyment in these kinds of moments and trying to diffuse unnecessary stress caused by applying overly formal expectations to domestic settings is an essential part of shifting to the home as a professional space.

One particularly important and unusual feature of the Covid-19 situation is that many parents are facing ongoing challenges with daycares and schools in limited operation. Parents all over the world have been adapting not only to working remotely, but to doing so with their children present while, in many cases, attempting to learn virtually themselves. Students and instructors with children will be in a much different situation and will be facing many more interruptions to their work day or class time than they're used to. It is crucial to be flexible about these situations not only because kindness and understanding about this falls under basic human decency but also because there are already troubling implications of the caregiving crisis particularly for women and female-identifying folks (see Howard).

Beyond the basic practical matter of many students learning as their budgies are chirping or the mail carrier is arriving at their door, the mental health implications of the pandemic and its associated conditions are serious and troubling. Student experiences with Covid may range from personal trauma and grief to boredom and loss of focus. Of course, you should never take on any kind of counseling role for which you are not qualified and always follow institutional policies for referrals to appropriate campus services for vulnerable students. Still, we can acknowledge that there is a certain amount of extra stress for everyone at present and implement some habits that are generally helpful for enhancing mental health. Synchronous discussions might begin with collective mindfulness exercises, like asking everyone to take three breaths (Krause 2020). They should also ideally include generous and frequent breaks for movement, tea, fresh air, or some music, particularly because your students may be in the position of having six to eight hours per day of synchronous sessions if all of their courses are offered in that format. Flexibility when it comes to assignment submission and class attendance may be necessary to avoid creating an overly stressful experience for your students. For instance, Rachel Toor asks her students to write ungraded personal essays, which let them to express themselves as well as get better at online writing without high stakes in terms of grading.

We also both have a goal of making our courses some of the bright spots in these difficult times. We create resource banks of fun online educational materials. These may include course-relevant materials, such as songs about

books, Spotify playlists with eighteenth-century music, or silent films from the 1920s. Sometimes we also include generally cool things, like Window Swap (https://window-swap.com), which allows students to peek into beautiful views across the globe, to lighten students' long hours in front of a screen and offer some recommendations in case their primary issue during the pandemic is boredom. For those experiencing resource scarcity, we share our libraries' lists and our own roundups of free resources made available for the pandemic, including documentary film databases, art gallery tours, and live-streamed plays and concerts. To combat screen overload, we also include some suggested activities that can take place completely offline and remind students of the easy-to-forget truth that you can shut down your laptop and write with a pencil, print out readings, or acquire them from libraries offering curbside pickup. For those having trouble with focus, we provide a list of study aids such as white noise repositories, "coffee shop" audio simulations, meditation options (like https://calm.com), zoo and aquarium webcams, and similar relaxation tools to promote focus and equilibrium.

Your own mental health might be suffering during this pandemic, especially if your workload has increased dramatically or if you have personally experienced some of the traumas or particular challenges associated with it. We are also aware that the considerations outlined in this chapter also sound like a ton of effort, and that this shift to online teaching is especially overwhelming if you are already struggling. In that case, we encourage you to seek support when you need it, use the only tools that work for you, keep your courses simple and focused on your most important goals, and maintain personal boundaries around downtime. Maybe you don't answer emails on weekends, maybe you do yoga between classes, or maybe you knit or take long walks. Whatever works for you should still be a priority even if time feels very tight. Be kind not only to your students but also to yourself.

Conclusion

As we write we are facing an upending of many of our existing educational practices and values, particularly the long-standing arguments for the importance of face-to-face education in the humanities. Many of us feel strongly that there is something irreplaceable about the experience of a seminar with engaged students debating the relative merits of Derrida's understanding of metaphor or contemplating the nuances of a particular couplet in the *Mahābhārata*. Those experiences, those communities, and those values have an important place in the classroom. You can have conversations on Zoom, but pretending that they're going to feel the same as they would around a seminar table is failing to acknowledge and value the nature of human interaction and the complexity of personal relationships. University education is simply not always a field or a domain that translates perfectly to remote work.

It might be helpful to think about how your content might openly acknowledge these shortcomings. C is teaching a new module on "Art at a Distance," for example, in order to encourage her students to think critically about the digital and aesthetic shift that this pandemic has occasioned. A sudden move away from a mode of education that we value toward something we don't know or understand is bound to be nerve-wracking, and perhaps even more so when we don't know how long these conditions will last or what things will look like in another semester, another year, or even another five years. The best we can do, it seems, is try to maintain engagement with the course materials, both our own and the students', in the moment. We can try to find small pockets of connection through digital means, and we can work for the present rather than hold ourselves to the standards of the recent past.

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Coda

Developing Your Teaching Philosophy

Now that you have found new ways to incorporate digital technologies thoughtfully into your humanities courses, let us consider what your classroom might look like today. A cluster of students has gathered around a computer, conducting spur-of-the-moment research. This group occasionally turns to a student, sitting nearby, to offer new ideas for searches to conduct on an online archive. Another student breaks off from the cluster to communicate the fruits of their labor to a trio drawing tables and figures on the whiteboard. Once the whiteboard fills, a group runner comes to you, bringing you over to inspect their work. You offer a few suggestions, walk over to the group at the computer to praise their research, then return to your own station to display a video clip that a shy student, having been working quietly in a corner, has shared on your course Twitter stream. Another group rushes into the room, brandishing smartphones on which they have taken photographs that the team at the whiteboard had sent them off to take. As the students leave for the day, they chat about their plans to complete the assignment over the weekend as you take pictures of the tables and figures on the whiteboard and upload them onto your course wiki.

By now, this sample class session—which incorporates a broad palette of approaches elaborated in this book—should seem fairly natural, even if it is

a departure from your previous analog methods. Admittedly, perhaps none of these configurations quite capture the social and spatial features of your own teaching experience. Maybe instead of a bright, well-stocked room designed to facilitate discussion, you're assigned a cramped room in a basement, where squirrels can easily climb in through the windows and, in the December gloom, there is an aspect to the light that makes the students drowsy. Sometimes, a projector bulb will burn out just as you begin to explore a nifty visualization, or an activity will produce results that you are quite eager to erase from the board. But because you have learned how to react flexibly and constructively to the constraints and opportunities that inevitably emerge in each course session, and because you have learned how to take advantage of the resources you do have available, you have no doubt begun to integrate exciting new classroom activities and assignments.

In this book, we have tried to give you the tools to do so by grounding general approaches and abstract concepts in practical examples, sample templates, and troubleshooting techniques. The ideas shared here, which introduce different intellectual configurations through the use of tools and technologies readily available to nearly everyone, are meant to offer opportunities for vibrant learning that satisfy your pedagogical goals and expand your teaching philosophy. You may be satisfied to restrict your engagement with new digital tools to adopting and adapting activity prompts and assignment sheets or perhaps to following our instructions about building a course website. If you want to go further than this introductory volume has led you, we hope that you will take up some of the many opportunities for experimentation that exist in this field. Furthermore, don't forget that exploring the pedagogical strategies described in this book can not only energize your course sessions but also reach beyond the walls of the classroom itself, transforming your own research and making your processes more efficient.

Having learned practical tips for incorporating digital humanities (DH) into your classroom from this book, experimentation and invention are the next steps. Although the very act of using new DH tools in ways you've never done before is itself an act of experimentation, as we've discussed, you can

take your own practice even further by pursuing training in more advanced digital skills (such as coding, textual encoding, physical computing, and GIS mapping). In order to facilitate creativity and innovation in course design, assignment implementation, and DH activities, you'll probably want to learn more than we discuss here about what's "under the hood" of various webpages, programs, and applications. Taking online or in-person courses on programming, app design, and archive building can even help you to create your own more sophisticated projects from scratch. Return, if necessary, to the options for external resources for skill building related in

Chapter 9—a chapter that we particularly hope will act as a springboard for your own deeper explorations in DH.

Such innovation and experimentation can lead you in new directions for your own research. S, for instance, has developed a suite of research on Henry James based on the skills and tools she asks her students to use in her survey of English literature. She is using the processes she originally developed for her DIY Digital Edition assignment sheet (available in the Web Companion) to create a digital edition of the prefaces Henry James wrote for the collected edition of his works. This process made her interested in textual studies, so she is now researching the print history of James's fiction; textual studies may not immediately seem to constitute a "digital humanities" field in and of itself, but she would not have pursued this avenue of research without having experimented with digital tools. Additionally, she has combined her interest in Twitter with her interest in James to write a series of papers on the relationship between James's writing style and contemporary writing practices in social media.

All of C's experiments in DH have come with a healthy dose of skepticism about the field and a general tentativeness about adopting digital methods. Indeed, she avoids social media and still frequently uses flip chart paper just as often as Google Docs. Her first minimal foray into digital pedagogy involved constructing course websites for her contemporary fiction classes (which were the first classes she taught as a graduate student). Having discovered the pleasure and excitement that students got out of features like the online gallery of student work and the extra readings and web resources she posted on the site, she began to think further about how the digital could involve itself in her teaching and research in a way that enhanced, rather than distracted from, her core disciplinary interests. Since those first straightforward websites she has found tremendous advantage in collaborating with students on large-scale digital research projects (crucially allowing for collaboration across international borders between colleagues and students all over the UK, the United States, and Canada) and in creating scholarly digital editions with students. C still sees herself as first and foremost a writer and book historian, but DH continues to revitalize and

expand the possibilities she can offer her students in terms of accessibility, diversity of assignments, and classroom experience.

Just as you'll want to make full use of your digital explorations and apply your new skills to new contexts—perhaps even personal as well as professional—encourage your students to do so as well. A software application they downloaded to satisfy your course requirements could be used to streamline their studying habits, add a new dimension to projects for another class, or add a new skill to their CV that can give them an advantage in the job market. They could continue using the digital methods for collaboration that you have taught them in order to complete group work for another class, stay connected to friends and family, or facilitate their work for an internship. If they have posted course work publicly online, they could cite this work in graduate school applications, use it as proof of their writing and design skills during an interview, or expand this digital resource into a full-fledged digital portfolio of their work. As your course draws to a close, urge your students to brainstorm further and future uses for their DH skills, outputs, tools, software downloads, and digital accounts, ensuring that the lessons learned in your class will continue to help them well after graduation.

We would like to leave you with two thoughts. First of all, we hope you will be inspired to explore the Web Companion and follow the many suggestions in it that gesture far beyond the pages of this book and even beyond the immediate concerns of any one class you might be teaching. We hope you'll get out there, meet new colleagues both inside and outside of your institution, both in real life and on social networks online, and learn from them. And once you have developed a robust network that can support your efforts, you'll have all the tools you need to be truly bold about your teaching and, in turn, to allow others to benefit from your experiences and knowledge. Second, we hope that in the midst of all that exploring, you'll always remember that when it comes to teaching, DH approaches are most useful when they bring you back to your own pedagogy. In other words, DH work best when they affirm the goals and facilitate the experiences that you want most for your students.

For C, having students work with authentic forms of digital media has allowed them to do some of their most creative work. They have done everything from building their own holograms that represent the transitional nature of the bildungsroman to inhabiting the characters of contemporary fiction through the use of social media to using digital images and timing tools to discover the relationship between typography and reading time. Working with collaborative digital publishing projects has allowed her students, some of whom have had graphic design and arts backgrounds, to see the links between their own artistic disciplines and the literary texts they study in English classes and write in creative writing workshops. Since imaginativeness, risk taking, and innovation are at the core of C's teaching philosophy, her students' use of digital technologies has brightened and diversified the creative classroom.

For S, DH methods allow her to ask students to approach questions of style, textuality, and cultural history in unexpected ways. Wading out to strange new regions—of graphs and visualizations, numbers and algorithms—destabilizes the literary concepts and texts that her students often regard as all-too-familiar. The inevitable "return to" traditional modes of humanist inquiry is thus meant to defamiliarize the humanities while humanizing the technologies with which our students live so intimately.

These are our own values in the classroom, but the digital has the potential to adapt itself to nearly any philosophy. Whether you believe strongly in collaboration among your students and creating a dialogic environment or you favor rigorous individual student work, each of these needs can be specifically addressed with reference to digital methods and tools. What's more, to enrich your own teaching philosophy, you should bring all of your decisions about course design and management into alignment with your academic and communal values. In many cases, digital tools provide a powerful means for materializing those goals. And along the way, as you experiment with digital pedagogy, you might learn surprising new truths about your own academic and communal values. Ultimately, it's not about mastering a particular encoding standard or acquiring a certain piece of equipment, but about finding new ways to put your teaching philosophy

into action, pushing your own pedagogy further, and using DH approaches to enrich your discipline.

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