

A Long-Belated Welcome: Accepting Digital Humanities Methods into Non-DH Classrooms

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Abstract

Digital Humanities (DH) methods incorporated into traditional (non-DH) humanities classrooms present a fruitful opportunity to help undergraduate students learn digital literacy skills as well as new ways of studying the humanities. In light of the trend of increasing numbers of women entering higher education and choosing humanities and arts degrees, DH can also help women who potentially face gender biases related to digital technology gain competence and confidence with it through their humanities courses. Having more students introduced to DH as a regular part of study may increase diversity in the DH community when they themselves become teachers and researchers. Barriers exist, from reluctance to change to a rising contingent labor force. Therefore, this article offers a selection of accessible DH methods that can be used to positively shape humanities pedagogy.

As a graduate student in English Literature, I was one of the lucky ones: my first teaching assistant experience came in a new English course that included a component related to Digital Humanities (DH)—a public blog—as part of its assessment. I had never encountered DH in my humanities degree programs at previous universities, but I soon found myself investigating other ways of integrating DH into traditional undergraduate courses to better prepare students with digital literacy skills for the 21st-century information society and show them new ways of studying their favorite subjects. My research has led me to the conclusion that incorporating DH methods into non-DH classrooms is more than pedagogically important—it is an ethical duty and a feminist imperative. Humanities students need digital literacy skills—including the women who make up the majority of such students and potentially face gender biases related to digital technology and computing culture—and DH tools and methods are well-oriented toward the development of these skills within the context of the humanities.

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First, a definition of terms is needed to clarify what is meant by Digital Humanities, digital pedagogy, and digital literacy. Digital Humanities involves the production and use of digital technologies for new types of teaching and research in the humanities (English, history, philosophy, and related fields) and/or computer science and a critical perspective on such technologies [Terras 2011]. Digital pedagogy is the use of digital technology in teaching and learning along with a critical reflection on how it can improve these activities [Digital Pedagogy? 2013]. Definitions of digital literacy range from having a general proficiency with digital technology to being able to “identify, access, manage, integrate, evaluate, analyze and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others” [Martin 2008]. In “Reconceptualising critical digital literacy” Luciana Pangrazio acknowledges that the fast-changing nature of digital practices means that students need to develop a critical disposition transferable across digital contexts rather than just learn how to use a new piece of technology. This definition of critical digital literacy thus encompasses both technical skills and “an understanding of the role humans play in questioning, challenging and therefore shaping this techno-social system” [Pangrazio 2016, 169]. There is a clear overlap between Digital Humanities, digital pedagogy, and digital literacy, especially regarding the importance of critically analyzing technology while engaging with it. This article takes a broad, inclusive view of what constitutes DH tools and methods and aims to be accessible to those without programming knowledge. Ultimately, it is for teachers to decide which aspects of Digital Humanities will allow them to best engage in digital pedagogy and foster critical digital literacy skills in their students.

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My initial review of the field of DH found relatively few materials on pedagogy, or how a teacher new to these ideas might be able to benefit from all of the interesting and exciting knowledge emerging from the DH community. Articles on pedagogy in Digital Humanities-specific books and journals—including *Digital Humanities Quarterly*, *The Journal of Digital Humanities*, *Digital Humanities Pedagogy*, and *Debates in the Digital Humanities*—tend to focus on classes already identified as belonging to the field of Digital Humanities or ones housed within departments working on DH research projects. Some assume a level of familiarity with DH concepts that may discourage newcomers from engaging with the digital technology presented. However, when I followed the articles' references to blog posts on scholars' websites and on networks like HASTAC^[1], I found resources on teaching that seem better suited to those new to DH. I extended my search to the relatively new online journals *Hybrid Pedagogy* and *The Journal of Interactive Technology and Pedagogy*, which seek to help teachers navigate the shifting landscape of digital media, and other scholarly resources on technology in the field of education. These present numerous calls for digital pedagogy and literacy^[2] to prepare students for the 21st century, but their broader scope may mean they are missed by those searching for humanities-specific resources.

Although many DH research projects focus on literary studies or are housed in English departments^[3], I found that there remains a lack of resources surrounding how DH might transform the traditional undergraduate classroom in my own field of English. One of the most accessible resources I encountered was a special issue of *The CEA Critic* on Digital Humanities pedagogy by the College English Association in the U.S. in 2014. One of its editors acknowledges that “very few texts address how teachers can apply DH in *literature* classrooms” and “[f]or most English faculty, DH as a field remains uncharted territory” [Iantorno 2014, 140–141]. The issue includes an overview of DH undergraduate pedagogy and five case studies from English teachers who have incorporated varying degrees of DH into their classrooms. The issue's strengths are that it targets English teachers, focuses on undergraduate pedagogy, and presents DH as a helpful and enjoyable accompaniment to traditional teaching techniques. In a similar vein, the *Digital Pedagogy in the Humanities* collection curated by the Modern Language Association (MLA) seeks to appeal to both experienced and novice humanities teachers and addresses the need for more scholarly examples of digital pedagogy.^[4] Instead of offering more text-based essays, it provides an open-access, born-digital collection of pedagogical resources sorted by keywords like “hybrid” and “rhetoric”. Although keywords are not specific to nor organized by traditional disciplines by design, the fact that they are in an MLA publication signals their importance and relevance to the field of English.

Yet despite relatively easy access to the resources listed, traditional humanities students and teachers may be unaware of them^[5] if they are not specifically searching for content with the keyword ‘digital’, and they may still be hesitant about a departure from familiar research and teaching practices, especially if it seems like they need to become masters of digital technology and learn how to use seemingly complicated software programs. This foreshadows a continuing lack of changes in pedagogy if humanities teachers do not use digital pedagogy and include digital literacy as a core competency and thus begin to shape future teachers. Therefore, this article seeks to present several compelling reasons for why DH methods belong in the classroom and then collate a variety of accessible ways to incorporate them.

Why DH methods belong in the classroom

DH methods belong in the classroom because they offer a fruitful means of developing the digital literacy skills that students need to prepare them for their personal and professional lives. Teachers should not leave them to navigate the challenging ocean of digital technology and culture on their own. Students themselves express a desire to learn more about and engage with technology. EDUCAUSE's study of 3,000 U.S. undergraduates indicates that students frequently use applications in which their skill levels do not meet their needs, especially in the areas of programming languages and e-portfolios (see Figure 1) [Dahlstrom et al 2011].

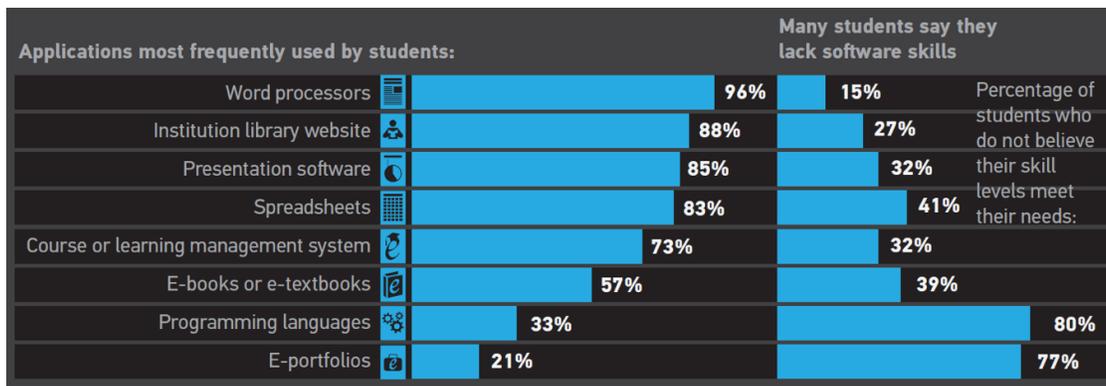


Figure 1. Student use and skill level of software in *ECAR National Study of Undergraduate Students and Information Technology, 2011*[Dahlstrom et al 2011](CC BY-NC-ND Eden Dahlstrom, Tom de Boor, Peter Grunwald, and Martha Vockley, 2011)

EDUCAUSE’s study of over 100,000 undergraduates across 14 countries finds that about three out of four students agree that technology helps them achieve academic outcomes and prepares them for the workplace [Dahlstrom, Walker, and Dziuban 2013]. The most popular combination of how to deliver more technology training is through face-to-face instruction in traditionally designed courses, which leads authors to conclude that “students aren’t really interested in taking separate ‘digital literacy’ courses or even using on-demand web or help desk resources,” preferring to follow their teachers’ guidance regarding technology [Dahlstrom, Walker, and Dziuban 2013, 11]. It makes sense, then, for humanities teachers to be the ones to facilitate students’ engagement with technology within the context of their courses. As Cunningham et al. argue, “Information literacy and a sophisticated level of computer literacy can no longer be considered appendages to an Arts degree. They must be incorporated into the course work for the degree itself” [Cunningham et al. 2008]. Neglecting to teach digital literacy in humanities courses prevents students from gaining the technological skills that they hope for or expect from their undergraduate education.

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Certainly the humanities have always provided education for an environment, rather than focus on specific vocational training, but there is a risk of underpreparing students if teachers assume that they inherently know how to transfer the oft-repeated skills of critical thinking and writing to the digital realm. Students are not “digital natives” just by virtue of living and breathing apps and social media in a world of data. Many lack basic digital literacy skills, from understanding the logic of code and tagging behind webpages [Ficke 2014, 207] to knowing about file naming conventions and advanced web searches [Mostern and Gainor 2013]. Critical evaluation of sources becomes increasingly complex online, where websites blend human- and bot-created content, sponsored listings, and nonlinear text and hyperlinks without traditional marks of credibility or authority [McVerry 2013, 13]. Students must be able to decipher the perspectives and motives of a webpage’s authors in order to judge its usefulness and truthfulness [McVerry 2013, 91, 95]. They need guidance to transfer the skills developed through the close reading of a poem or manuscript to an analysis of a modern multimedia website. In a time of significant social, political, and ecological challenges, humanities teachers with “intimate and largely unsupervised access to developing minds” have a tremendous opportunity to positively influence the next generation [Menand 2010, 129]. The definitions of critical thinking and writing are flexible enough to address the need for critical digital literacy, which will allow students to transfer traditional skills to the changing digital world.

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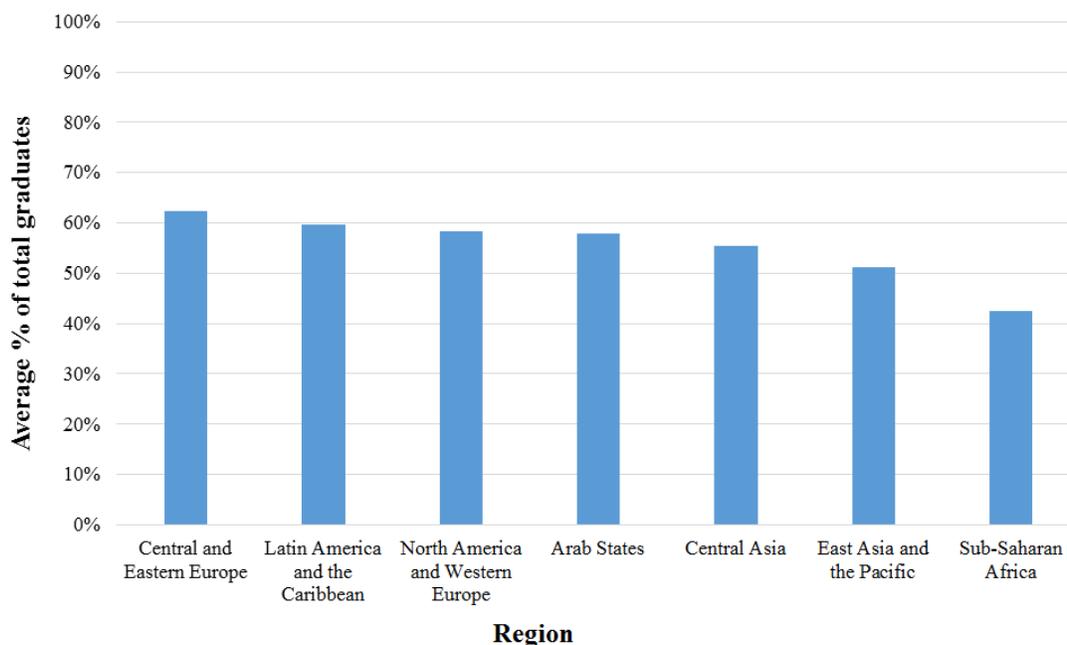
Indeed, students rely on transferable skills like critical thinking developed in humanities degrees for their future success, be that in the workplace, graduate school, or elsewhere. They therefore need not only critical thinking and writing skills for print-based and digital environments, but also competence with digital technology. As the Learning Literacies for the Digital Age (LLiDA) project found, the “nature of work is changing, not just for the growing numbers of graduates directly employed in the ‘digital’ industries”, with over three-quarters of jobs in the UK, for example, needing information technology competence and a continual updating of skills [Beetham, McGill, and Littlejohn 2009, 16]. One of the employment fields closely connected to the humanities is the GLAM (Galleries, Libraries, Archives, and Museums) sector, which needs staff to be digitally literate to properly digitize content, manage databases, and deliver technology-based educational programs. But historically, humanities teachers have been resistant to the notion of practicality in

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their courses; they espouse learning for learning's sake and assign essays that seem to be training more researchers like themselves rather than enabling students to have an impact on their world.^[6] Yet the reality is that most undergraduate students will not go into academia; indeed, there are not enough jobs for those who have trained for them [Menand 2010]. Humanities students may not have chosen a vocational path, but many still view an undergraduate degree as a means of obtaining a good job to support themselves. They want “education with labour market value that provides them with skills relevant for today and tomorrow” [Hoidn and Kärkkäinen 2014, 13]. Teachers who extend the learning experience to include digital literacy prepare students with an expanded set of skills for whichever path they choose to pursue.

Furthermore, fostering digital literacy can be seen as having positive feminist implications by empowering women to engage and experiment with digital technology, for when we imagine the humanities undergraduate, the likelihood is that the person will be a woman. In much of the world, women are pursuing higher education in increasing numbers and now outnumber men. According to the UNESCO Institute for Statistics' *Global Education Digest 2010* with a special focus on gender, women are enrolling in and graduating from tertiary institutions at higher rates than men in most countries (see Figure 2) [UNESCO 2010]. UNESCO's report also shows that overall, women comprise a majority of graduates in the humanities and arts (see Figure 3). Therefore, ensuring that these classes promote digital literacy skills will benefit a higher percentage of women than men.

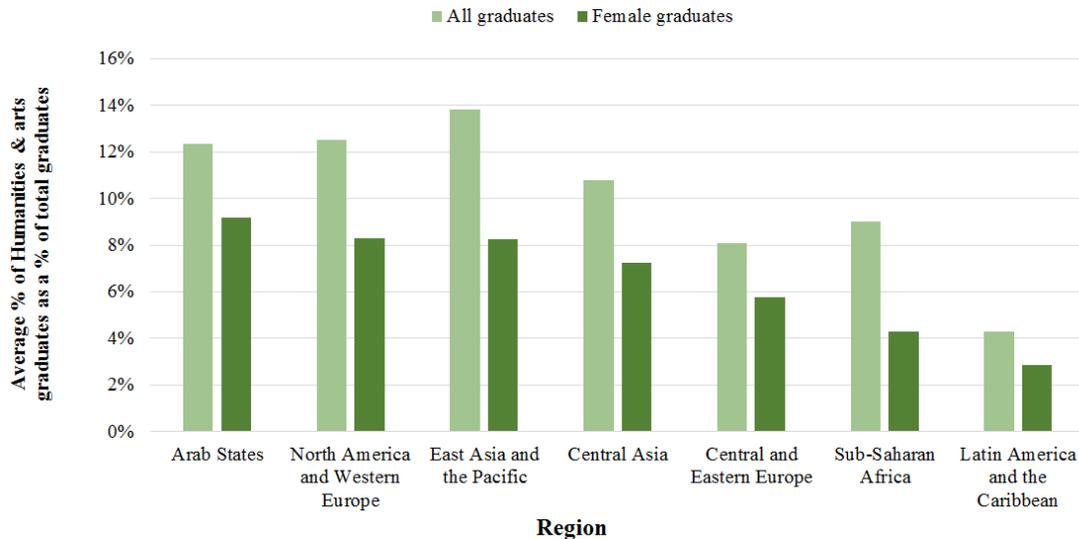
Female graduates from tertiary education



Source: UNESCO Institute for Statistics, *Global Education Digest 2010*

Figure 2. Female graduates as a percentage of total graduates from tertiary education

Humanities & arts graduates from tertiary education



Source: UNESCO Institute for Statistics, *Global Education Digest 2010*

Figure 3. Humanities and arts graduates as a percentage of total graduates from tertiary education

Improving digital literacy among women in particular is important because of the research showing they are already at a disadvantage when it comes to technology. Researchers have found “a strong overlap between attitudes of computing culture and those of masculine culture” including themes of “aggression, hierarchy, and dominance” [Cohoon and Aspray 2006, 145]. Male traits are linked with competence in computing, and it is assumed that females are disinterested or “naturally” afraid of tinkering with computers [Burke 2007, 7] [Varma 2007, 361]. These kinds of gender stereotypes help contribute to women’s lower self-confidence than men in relation to computing and may cause them to reject it as unappealing [Cohoon and Aspray 2006, 165] [Margolis and Fisher 2002]. Even with efforts to address the underrepresentation of women and other minority groups in science, technology, engineering, and mathematics (STEM) fields, progress has been slow [Bystydzienski and Bird 2006]. Cultural stereotypes labelling STEM fields as masculine and more human-centered fields such as the arts as feminine still exert a strong influence on individuals’ choices of degree programs [Charles and Bradley 2006]. Given that a majority of humanities majors are women and this trend is likely to continue, it is essential that students have the opportunity to gain digital literacy skills and build their confidence with technology within the humanities classroom.

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Sitting at the intersection of digital technology and the humanities, Digital Humanities offers the opportunity to engage female students with technology in the degree programs that they already choose and enjoy. Women may be more likely to become interested in and gain confidence with technology if it is taken out of a male-dominated context and put in their literature, history, philosophy, and other humanities courses. Humanities teachers are in a unique position to link technology and computing to culture and emphasize the social relevance factor that women prioritize [American Association of University Women 2015] [Margolis and Fisher 2002].^[7] The humanities already have an abundance of rich narratives—the allure of DH to the female undergraduate may be related to its ability to connect something technical and digital (like entering information into a database or creating a website) with the human element (curating thousands of images and material related to the Canterbury Earthquakes in New Zealand online for a community of people in recovery).^[8] When introduced gradually into the classroom, DH can offer a more palatable, less intimidating experience with technology for women; ultimately, it may surprise those who would never have thought themselves capable of tinkering with technology but who appreciate that DH encourages experimentation and a self-taught ethos while keeping the human at the center, rather than the tech. Thus, if teachers place DH methods into their courses, they offer women in those courses the chance to experiment with technology as a different way of studying the subject. They also promote digital literacy skills in a particular humanities context, which can have a positive impact on women’s

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confidence with technology and future success.

Incorporating DH methods into non-DH classrooms may also help address the lack of diversity that has been raised as an issue within the field of DH itself. Concerns continue to be raised by DH scholars, including Tara McPherson with “Why are the Digital Humanities So White?” [McPherson 2012]; Adeline Koh and Roopika Risam with their Postcolonial Digital Humanities website [Koh and Risam]; and initiators of the #transformDH movement. Brett D. Hirsch’s introduction to *Digital Humanities Pedagogy* acknowledges that DH pedagogy could be discussing issues of “class, disability, ethnicity, gender, race, and sexuality” and limited diversity in the DH community but falls short of this potential [Hirsch 2012, 27]. Though the number of DH centers and degree programs is increasing, they are still housed in a minority of institutions which tend to be located in North America or Europe. Many students will not have the option of choosing a DH minor, major, or certificate or going to the University of Victoria’s popular Digital Humanities Summer Institute, though they may be able to attend a local THATCamp.^[9] Obstacles like funding, institution size, infrastructure, language barriers, and geographical proximity limit what institutions can offer in support of DH projects and travel to DH events. Faculty already marginalized because of their contingent status (discussed below) may be especially hesitant about DH-driven learning experiences in the classroom, just as students already burdened by debt and anxious about the job market may be hesitant about deviations from their expectations. But if teachers include DH as a regular component of their courses, this may serve to increase the diversity of the incoming generation of DH scholars and drive change toward making DH more accessible and expected. Once exposed to DH, some students will inevitably want to take the next step by creating or joining a DH project, or pressuring their institution to begin offering DH programs. Those students who eventually become teachers themselves will also be used to the combination of traditional and DH teaching techniques in their classroom, thus continuing to shape DH pedagogy. Certainly teaching inflected with DH is not a panacea for all the world’s ills. But expanding the pool of undergraduates familiar with DH represents one way to bring a more diverse set of perspectives and bodies to the field.

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How to incorporate DH into the classroom

Ways of incorporating DH methods into the classroom need to be accessible, meaning small-scale and not resource-intensive, in light of the ongoing issue of part-time, untenured, and unstable labor in academia.^[10] Around three-quarters of higher education faculty in the U.S. are contingent, or non-tenure track, and over half of those are part-time instructors or graduate teaching assistants [Barnshaw and Dunietz 2015, 13]. This trend is being replicated around the world [Teeuwen 2007], with the result being that “the overwhelming majority of our academic colleagues struggle to provide excellent instruction while mired in precarious contingent appointments” [American Association of University Professors 2014]. The tenuous nature of this employment may then affect teachers’ ability or perceived ability to experiment with DH. Indeed, in one survey of part-time faculty members, respondents “paint a dismal picture” regarding institutional support for resources needed to maintain and improve teaching quality [Coalition on the Academic Workforce 2012, 14]. Adjuncts may not even have an office space, let alone access to servers and labs or an effectual relationship with IT staff. Kenneth T. Ryesky lists nine barriers to adjunct faculty obtaining full access to IT resources and support, ranging from compatibility issues between campus technology and a teacher’s personal technology to the specialized technology needs of some courses [Ryesky 2007]. Another obstacle is that the structures of hiring and promotion often do not reward risk-taking [Rogers 2015]. Therefore, starting small with DH pedagogy, as Ryan Cordell recommends [Cordell 2015], may be the only way in the foreseeable future of incorporating DH into undergraduate humanities classrooms. This perspective follows the approach that Adeline Koh takes in “Introducing Digital Humanities Work to Undergraduates,” where she offers easy ways for newcomers to implement DH projects in the curriculum [Koh 2014].

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If DH methods are to be the means by which humanities undergraduates gain digital literacy skills as well as exposure to the field, teachers need to focus on which aspects of technology they want to focus on in their course—overwhelming students with too much technological interaction can be detrimental to their confidence and future success. For those who lack access or experience with computers due to various barriers, appropriate scaffolding is important to make DH accessible in terms of both resources and level of difficulty. Erika E. Smith’s review of the “digital native” debate finds several studies that show the importance of socioeconomic status, including race and gender, in affecting a student’s

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technology skills and abilities [Smith 2012]. By being aware of differing levels of technological understanding, humanities teachers can avoid leaving inexperienced students behind, as has happened in computer science when instructors incorrectly assume a certain level of prior computing knowledge [Cohoon and Aspray 2006]. Using John Biggs and Catherine Tang's process of constructive alignment in teaching design [Biggs and Tang 2007], teachers can include a particular aspect of digital literacy as one of the desired learning outcomes in a course and gradually adapt the learning environment and assessments to be conducive to students gaining new skills and comfort with technology in the context of the humanities. In this way, teachers can "reverse engineer individual course outcomes from what [they] want the successful graduating students to be able to do" so that teaching becomes "the creating of a context for student achievement" [Rockwell and Sinclair 2012, 188].

Digital Humanities Methods

This article continues along the trajectory of Jon Saklofske, Estelle Clements, and Richard Cunningham's chapter "They Have Come, Why Won't We Build It? On the Digital Future of the Humanities" in *Digital Humanities Pedagogy* [Saklofske, Clements, and Cunningham 2012]. The authors see undergraduate programs as "ripe for the introduction and integration of digital humanities ideas and practices" and also believe in starting small [Saklofske, Clements, and Cunningham 2012, 323–4]. In an attempt to consider the variety of ways DH might be incorporated into an undergraduate classroom in a broad fashion, I have used a selection of the methods from *Digital Humanities* by Anne Burdick, Johanna Drucker, Peter Lunenfeld, Todd Presner, and Jeffrey Schnapp [Burdick et al. 2012] and "A Guide to Digital Humanities" by Northwestern University librarian Josh Honn [Honn 2014] as an overarching framework, because these resources provide clear overviews of each method and an orientation to the ideas underpinning the field. Although these methods have often been seen as guiding principles for research, this is an imagining of how they might be used to influence pedagogy, especially in my own field of English Literature, with examples included from relevant case studies. These methods capture the spirit of DH with the hope that current and soon-to-be teachers will choose ones that interest them, read the respective secondary literature, and gradually integrate DH into their courses.

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Enhanced Critical Curation

With ever-increasing amounts of data, one of the pedagogical challenges for teachers is to avoid presenting students with pre-digested information and instead help them learn how to critically sift through the data to find what is meaningful and valuable. This includes the ability to judge the relationship between originals and copies and the authority and meaning behind digital objects [Burdick et al. 2012, 33]. It also means encouraging students to roam responsibly outside of the gated world of the library, whose catalogue has already been carefully curated for them. In fact, in a multi-country survey^[11] to discover college students' information-seeking behaviors, 89% indicated that they typically begin their information search with a search engine, and more than half believed information from search engines was as trustworthy as a library information source [Online Computer Library Center 2006, 1–7, 3–4]. In a more recent study in the US as part of Project Information Literacy, 92% of students used search engines and 73% used Wikipedia for course-related research, demonstrating the continued dominance of these sources [Head and Eisenberg 2010, 7]. In addition, 61% of students reported that they encountered difficulties with filtering irrelevant results and 41% struggled with determining credibility, tasks that are pertinent to students' need to cope with the expansion of information sources online [Head and Eisenberg 2010, 25].

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Toward the goal of developing students' capacity to judge online content and its usefulness to their scholarship, teachers can enlist the assistance of librarians. Juliette Levy's Digital Zombies project for a history course combines physical and digital library research skills with a fun popular culture interface (including taking a selfie photo with a staff librarian). Students assess the validity of Wikipedia and edit underdeveloped articles to avoid becoming a digital zombie, or a student who will "use digital sources indiscriminately, without concern for their reliability or origin" [Levy]. Under the premise that during a zombie apocalypse students will need to know where to find information on- and off-line to become specialists in a certain area, the assignment helps them become more critical researchers with minimal restrictions and guidance. In their 18th-century poetry course, Bill Hutchings and Karen O'Rourke experimented with discontinuing the usual list of neatly packaged essay questions and secondary sources—offered with the best of

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intentions—because it was limiting students’ capacity for judging materials on their own [Hutchings and O’Rourke 2002]. Their new problem-based assignment required students to search for and assemble materials for an 18th-century travel brochure designed to attract modern-day tourists to the countryside, which meant students needed to make and critically assess their own reading list. This kind of project could easily be modified to explicitly include digital literacy skills around sifting through and choosing appropriate online resources.

Easy, fast access to an unprecedented volume of multimodal information via search engines is changing how students acquire knowledge and determine its value. Teachers should therefore foster self-reliance and students’ “ability to seek, access, and assess quality information” anywhere they go [Giglio and Venecek 2009]. The dominance of the internet and sites like Wikipedia means that teachers need to promote critical digital literacy skills around evaluation and analysis of digital resources that will serve humanities students long after they lose access to the library’s curated content.

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Augmented Editions and Fluid Textuality

Though critical editions of texts have a long history in the humanities, the digital environment now offers more layers and spaces for interpretation, and potentially more pedagogical avenues of exploration than the static print book. So-called augmented editions can contain extra material “under the hood”—such as tags that identify people, places, and themes—as well as links to other digital material like audio, video, and images that can help students relate the text to its historical and cultural context [Burdick et al. 2012, 35–36]. The increasing fluidity of texts, or the ease with which digitized texts can be edited and changed, has helped enable the shift toward more multifaceted texts and relational forms of analysis, which students can engage with in order to hone their argumentation skills in the digital space.

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In Katherine D. Harris’ Romantic literature course, students created their own digital edition of *Frankenstein* with Romantic-era and modern-day materials [Harris 2011]. As they added to their annotated chapters in Google Sites with essays and linked images and resources, they also reviewed and linked to each other’s work, ultimately breaking down their notion of the lone Romantic author and giving them a greater understanding of literary production in the 1800s as collaborative. Constructing a critical edition of the novel in the digital environment enabled students to situate it in terms of its own time period as well as theirs and make those connections explicit through literal links to other digital content. Teachers can thus take advantage of open-access digital editions of texts by not only using them in the classroom, but guiding students through the creation of their own digital editions, which develops skills in synthesizing digital resources and communicating in a collaborative digital environment.

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Teachers can also encourage this type of multimodal research and writing in a perhaps less intensive step away from the traditional research paper: the multimedia essay. The multimedia essay frees students from the shackles of the traditional thesis-support structure while still challenging them to appeal to several senses of their audience in order to make their point [Ellis 2013, 43–44]. They must still present a coherent argument, but they gain experience navigating the internet with a specific academic purpose and using new media like photos, clipart, videos, and sounds in a relational way to connect and support their main points. This expansion of “what counts as academic knowledge” also serves to question traditional conventions, like the privileging of black text on white paper over other forms of knowledge like oral histories or artistic works [Bowen and Whithaus 2013, 4–8]. The creation of multimodal editions and arguments may, then, be a more inclusive way of helping students craft a persuasive argument that works with the shift toward a multimedia world rather than against it. Teachers should take advantage of these kinds of assignments as a way of promoting digital literacy, encouraging students to evaluate, analyze, and use a variety of digital resources as a means of effective and persuasive communication.

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Distant/Close, Macro/Micro, Surface/Depth

Close reading is a skill often practiced by undergraduate humanities students, and their essays are supposed to reflect their ability to analyze a text at this micro level. But the vast data being produced in today’s world means “it has become impossible to read, comprehend, and analyze the digital cultural record without the assistance of digital tools and methods” [Burdick et al. 2012, 38]. There are new ways of creating meaning through the analysis of patterns and

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relationships in larger bodies of texts, known as distant reading, and students who gain some exposure to it will be able to use digital methods to study the humanities in a new way that complements close reading.

To compare trends in particular periods of history and literature, students can use tools like Bookworm or Google Ngram, which graphs keyword frequency in the millions of books Google has scanned. Although results must be viewed with caution due to biases and errors in the corpus,^[12] teachers can initiate discussion and critique of the technology and remind students that the graphs are not necessarily proving anything. Rather, a graph like that of the word “peace” overtaking “war” in 1743 is actually “a doorway that leads to a room filled with questions, each of which must be answered by the historian before he or she knows something worth knowing” [Kelly 2012]. The digital tool is just the beginning of more research and analysis to make sense of the data and support a persuasive argument. By helping students critically engage in distant reading, teachers foster the aspect of digital literacy that involves questioning and challenging technology rather than passively accepting it.

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Technology can assist with new ways of close reading as well. Although TEI (Text Encoding Initiative)^[13] “is often considered a hobgoblin term, which represents all that *is* computer science and all that *is not* literary,” guiding students through marking up a text with TEI actually facilitates the close reading of a text [Iantorno 2014, 143]. It develops technical skills in addition to raising awareness of the “critical labor that digital resources seem to dissolve” [Fyfe 2011]. As an alternative to writing an essay, TEI demands “extended, thoughtful engagement with the text” because students must pore over each word, determine which features are of interest, and then tag them accordingly [Gailey 2014, 194]. Furthermore, the exercise shows students that building a digital product or tool is an act of interpretation with the potential for human or software error [Ficke 2014, 201, 204] but also creative expression [Singer 2013]. When students examine texts from technology-enabled viewpoints, they learn to complement traditional analytical skills with new ways of reading and oscillate between discovery of large patterns and close analysis of them [Burdick et al. 2012, 39]. Teachers should provide these opportunities not only because they enhance the study of the humanities, but because they prompt critical reflection on the technology and data being relied upon, which is transferable to other contexts.

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Data Visualization and Design

Data visualization offers a way of modeling knowledge and relationships that goes beyond the borders of the text and adds to an increasingly visual-rich environment, where knowing “how to read and visualize forms is at the basis of digital literacy and the assessment of meaning” [Burdick et al. 2012, 45]. Teachers can use the variety of data visualization tools and projects now available to prompt questions and research on a chosen topic and teach students how to analyze visualizations as subjective rather than objective representations.

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Introducing students to data visualization by having them create their own images gives them the opportunity to tinker with various ways of representing data before analyzing their results. Word cloud generators like Wordle allow students to see the most frequent words in a text, such as their own writing or a digitized novel or play, with the ability to customize and save images and consider what is gained or lost in the transformation. Voyant Tools includes a suite of powerful textual analysis tools that generate graphs and other visualizations. Such web-based tools are “both intuitive enough for lower-level undergraduates to learn without much coaching and powerful enough to show how computers have expanded the ways we can interact with texts and analyze their content” [Ficke 2014, 205].

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There are dozens of map and timeline visualization tools online, as well as DH projects for particular time periods that teachers can incorporate into their classrooms. For example, the Trans-Atlantic Slave Trade Database is a project that contains information on almost 36,000 slaving voyages and includes customizable map and timeline visualization tools, as well as a lesson designed specifically for undergraduates. Teachers who want to encourage their students to learn how to make their own timelines can point them to Timeline JS, which is an open-source tool that would only require students to input information like dates, image links, and event descriptions into a Google spreadsheet in order to create an interactive timeline. Teachers should encourage students to harness the capabilities of data visualization tools within the context of the humanities so as to broaden their learning experience with new media and digital tools and extend their print-based analytical skills into the digital space.

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The Animated Archive

With an increasing amount of content digitized and curated by cultural heritage and scholarly institutions and available online for a global audience, teachers have the opportunity to introduce students to the affordances of collections and archives no longer bound to the physical object. There is an increasing number of subscription-based and open-access projects that include not only digitizations of texts, but images and additional contextual material that teachers can use in their pedagogy.^[14]

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Caley Ehnes had students consult *British Periodicals I & II* and *Nineteenth-Century British Periodicals I & II* to help them contextualize Victorian poems that originally appeared in periodicals, achieving the goal of making poetry “more than an impenetrable series of lines in a scholarly anthology” [Ehnes and Hingston 2015, 199]. Upon reflection, Ehnes saw potential to make discussions about the archive itself part of the curriculum, such as asking students to critically consider how the structure of the database necessarily shapes the information they can retrieve — just as the periodical press had influenced aspects of Victorian poetry. Using the *Emily Dickinson Archive*, Wesley Raabe switched from discussing Dickinson’s poetry in the traditional classroom format to having students read aloud manuscript facsimiles and investigate poetic vocabulary in the digital lexicon, which is based on definitions of words in the Webster’s 1844 dictionary that Dickinson owned [Raabe 2014]. Reading aloud from the online manuscripts drew attention to possible variants of the same poem, while discovering the figurative meanings of words like “burglar” and “velvet” meant that “students felt empowered to attempt much more ambitious readings of the poems” both in class and in final essays [Raabe 2014, 180]. The archive brought the poems to life in a way that the standard literature anthology did not.

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Such digital archives also afford teachers the opportunity to counteract students’ typical view of a text “as stable and its material and editorial history as irrelevant” [Gailey 2014, 196]. Students who examine a text in its original manuscript form start becoming aware of the decisions made in the process of transferring that manuscript to the tidy text in their book. The archive enabled Raabe to draw undergraduate students’ attention to the choices made by scholars in transcribing Dickinson’s poems, including the removal of alternate words and stray markings that may have altered meanings. Such teachable moments are made easier in an age of digitization and quick access to scholarly archives; however, teachers may also wish to prompt students to critically reflect on the ease with which technology can obscure or delete prior versions of texts and what implications this has for the future of digital materials. When online collections and archives are available, teachers should use them to trigger new kinds of thoughtful analysis and help students comfortably integrate digital resources into their studies.

31

Humanities Gaming

Students have grown up immersed in digital games on phones, tablets, and computers, and many place high value on “interactive programs that engage their attention while at the same time deepening their understanding of meaningful subject matter” [Burdick et al. 2012, 52].

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Games engage with the power of the network and make players aware that important knowledge is not isolated in one person, tool, or technology but rather in the way all of these are interconnected, much like the real world in an information society [Gee 2007, 197].

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Instead of resisting the rise of gaming culture, teachers can find ways of redirecting students’ eagerness to engage with simulated environments into an academic context.

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Many teachers have used the free three-dimensional virtual world of Second Life to stimulate students’ interest in and understanding of history and literature. Some ask students to virtually reconstruct historical theatres like The Globe [Burdick et al. 2012, 51]. Elizabeth Zold has used it to connect her students more viscerally with 18th-century travelogue authors by making them reflect on and write about their own experience of traveling to a new environment [Zold 2014]. Students who had previously dismissed travel literature as too biased realized how difficult it was to describe what they saw and choose what to focus on in Second Life. They gained an appreciation for the “complex process of negotiating details, accuracy, novelty, and personal opinions” and began to “negotiate their expectations of

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how a text is constructed” [Zold 2014, 324, 239].

Although cost and technological barriers may prevent students from being able to use games in the classroom,^[15] teachers can draw on students’ existing knowledge, as well as screenshots or walkthrough guides, to set them up to develop a critical perspective on how games are constructed. Students can examine which aspects of culture a game includes and which it leaves out and why; in a history class, this might mean assessing whether the so-called realistic and authentic worlds in medieval games truly represent a diverse European populace [Young 2014]. Teachers can also teach game design as a form of interpretative writing, where students transform elements of a narrative like the postmodern *The Crying of Lot 49* into a quest [Howard 2007]. Rather than reproduce narrative events in a linear way, students imagine and describe a game environment wherein players could go on a journey and experience some of the themes from the novel in the process. This kind of creative and analytical writing can reveal the multiplicity of interpretations for any particular text and induce students to role-play the characters in order to design an interesting game. There is great potential for gaming to transform DH pedagogy, as [Burdick et al. 2012] note. Teachers should consider how the conventions of games may be able to supplement traditional forms of reading and analysis and expand students’ critical perspective to digital culture.

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Repurposable Content and Remix Culture

Read-only culture is fading: the Web encourages a read/write/rewrite ethos [Burdick et al. 2012, 56]. Students want to take other people’s content, remix and personalize it, then distribute it [Giglio and Venecek 2009]. However, they may find the inflexibility of humanities structures running counter to their creativity, and thus miss an opportunity to learn how to remix responsibly amidst issues of intellectual property, copyright, and licensing.^[16] Teachers can tap into the remix urge by incorporating activities like multimedia projects, wiki editing, meme creation, and social media exchanges, all of which blend writing and research in new ways, encourage personalization over replication, and foster digital literacy skills.

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The ubiquity of social media, especially, opens up a range of potential projects for humanities students that can both deepen their engagement with course content and improve their ability to integrate and synthesize digital resources as they communicate via digital platforms. In essence, the humanities have always involved a spirit of remixing, with stories, legends, and symbols being shared in new iterations spanning the centuries. Perhaps the most iconic example is Shakespeare, whose plays are now being remixed, repurposed, and distributed across the Web, both inside and outside of the classroom. Alan Liu has encouraged this mindset in his Literature+ course by having students use LiveJournal and Facebook to create profile pages and interactions between characters from Shakespeare and Chaucer, enabling innovative juxtapositions and interpretations [Liu 2013]. Four young women from New Zealand known as The Candle Wasters have mixed Shakespeare with YouTube, Facebook, Twitter, Tumblr, and current events to create their hit literary web series, self-described as fierce, funny, and feminist [The Candle Wasters 2015]. They have amassed thousands of subscribers—94% female, 53% of which are aged 18 to 24 like the creators—who tune in weekly to enjoy the continuing relevance and pleasures of the Bard’s plays, demonstrating the popularity and impact of this kind of remixing, for young women especially [The Candle Wasters 2015].^[17] Having to imagine how characters would construct their digital selves and then build those identities involves a synthesis of the past and present in relation to both content (Early Modern to Postmodern) and context (physical actors to digital profiles).

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Teachers who nurture and engage with similar kinds of projects can embrace “the pedagogical applications of Web 2.0 technology” and “create new contexts that emphasize flexibility in a way that is relevant to the current culture of information” [Giglio and Venecek 2009]. Teachers should ask students not to write but “to weave—to build, to fabricate, to design” and engage “with seemingly incongruous materials [while] developing a critical thinking practice about the process and the product” [Sample 2012]. They should position the material of the humanities as adaptable to the changing digital environment and encourage students to gain proficiency in remixing and communicating in that space.

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Ubiquitous Scholarship

The internet has already enabled people and communities outside of academia to participate in the production and

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distribution of knowledge on a global scale, so it makes sense for students to also contribute to the expansion of humanities scholarship in the digital environment. In so doing, they have the opportunity to develop digital literacy skills around constructing knowledge online, communicating via digital platforms, and critiquing crowd-sourced information.

For teachers, this involves breaking the closed loop of “disposable assignments [...] that add no value to the world — after a student spends three hours creating it, a teacher spends 30 minutes grading it, and then the student throws it away” [Wiley 2013]. Although teachers must exercise caution and address privacy issues, by incorporating more public writing into their courses they impart a crucial message to students that “what they think and what they say and what they write matters” to their class as well as the world [Sample 2012]. The hypothetical public reader prompts students to “take ownership of their scholarship in a way rarely engendered in the typical research essay, which customarily has an audience of one” [Ehnes and Hingston 2015, 206]. Another form of public scholarship might involve having students contribute to a DH project like the *Transcribe Bentham* project—to “help create for posterity a vast digital repository of Bentham’s writings”—and then reflect on their contribution [Causar 2013]. By transcribing or translating parts of a manuscript that students know will be available online, they can gain confidence in working with technology for a specific humanities purpose and the satisfaction of moving the field forward.

Rather than continuing academia’s longstanding condemnation of wiki sites, teachers can encourage students who are privileged with access to educational materials to make quality contributions. After all, the “encyclopedia is a humanist reference genre” and millions rely on wiki sites for open-access information [Kill 2012, 404]. A project which had students contribute to a wiki on Shakespeare taught them valuable lessons about knowledge gaps and “the plausibility of objectivity in interpreting history” [Giglio and Venecek 2009]. Teachers can include editing or creating articles on Wikipedia as an assignment, with the Wikimedia Foundation providing educational resources like sample syllabi [Wikimedia 2012]. Wikipedia editing affords teachers the opportunity to discuss and help address the site’s issues with a lack of diversity (especially regarding women and those outside of North America and Europe) and uneven or biased coverage.^[18] Not only are students more likely to go back and revise this kind of work as opposed to a traditional essay, they establish a critical perspective on online crowd-sourced sites and are better prepared for future “crowd-sourced engagement with editing, proofreading, translation, and critical assessment” [Burdick et al. 2012, 51]. Teachers should encourage students to take advantage of public scholarship opportunities and address the pressing need for students to construct knowledge and communicate in digital contexts.

Conclusion

Ultimately, if the incorporation of DH tools and methods into humanities classrooms helps teachers prepare students to be more critically informed and engaged in the digital environment of the 21st-century information society, it becomes the ethical choice. It also becomes a feminist imperative in light of the increasing percentage of women in higher education and humanities programs who would benefit from gaining more confidence with technology. The benefit of DH is that allows teachers to promote digital literacy skills in a humanities-specific context and take advantage of online tools and projects. Because teachers new to DH may feel overwhelmed by the prospect of integrating it into their classrooms—especially if they are contingent faculty or lack access to DH centers and labs—this article presents methods from *Digital Humanities* as an accessible starting point for transforming pedagogy. Teachers can foster more digital literacy among undergraduate students by having them:

- Critically sift through digital information
- Go beyond textbooks and essays with digital editions and multimedia assignments
- Use technology-enabled viewpoints of distant and close reading
- Visualize and manipulate texts with textual analysis tools
- Explore digital collections and archives
- Play, critique, and design digital games
- Responsibly remix and share humanities content online
- Contribute to public scholarship through blogs and DH projects.

Humanities students benefit by being able to critically read, reflect, and write in both traditional and digital environments,

making them better prepared for future success in whichever path they choose to take. With ideas largely traveling digitally now, teachers should ensure that their pedagogy equips students with the skills to navigate this brave new digital world.

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Notes

[1] HASTAC (Humanities, Arts, Science, and Technology Alliance and Collaboratory) offers free resources and hosts student groups for courses whose teachers lack other institutional support. See [Davidson 2015].

[2] The *NMC Horizon Report: 2015 Higher Education Edition* lists improving digital literacy as a solvable challenge [Johnson et al. 2015].

[3] For a history of Digital Humanities in relation to English departments, see [Kirschenbaum 2012].

[4] See also [Harris 2013] for examples of how to incorporate digital pedagogy into undergraduate humanities classrooms in non-research intensive universities.

[5] See [Bloomsburg U. Undergraduate 'Manifesto' 2010] for a manifesto by undergraduate students on how DH evaded them for so long but then became essential.

[6] See [Sample 2012] for issues with assigning traditional essays.

[7] In attempts to improve gender balance, some computer science and engineering programs have made stronger links to social good and relevance (see [Cohoon and Aspray 2006] and [Busch-Vishniac and Jarosz 2007]).

[8] See the University of Canterbury's CEISMIC Canterbury Earthquake Digital Archive.

[9] THATCamps (The Humanities And Technology Camp) are unconferences, or participant-driven meetings, enabling people to generate discussions about humanities and technology.

[10] Non-resource-intensive tools and programs include wikis, blogs, user-friendly databases like Omeka, and text analysis and concordance programs listed on TAPoR or Bamboo DiRT.

[11] The survey included over 3,000 respondents from Australia, Canada, India, Singapore, UK, and US.

[12] See [Pechenick, Danforth, and Dodds 2015] for limitations of the Google Books corpus.

[13] See A very gentle introduction to the TEI markup language.

[14] See NYU Libraries' list of open-access literature-related digital collections and DH projects.

[15] Students may be able to use older, less expensive versions of games (such as Civilization IV) if they have compatible computers or access to computer labs where the games could be installed.

[16] For example, teachers should make students aware of how to use the free licenses provided by Creative Commons.

[17] The Candle Wasters' first and second series have a total of over 20,000 subscribers and 2.7 million views on YouTube.

[18] For more information on issues with editors, see [Wikimedia 2011], [Lam et al. 2011], [Hill and Shaw 2013], and [Adams and Brückner 2015].

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