Establishing a New Paradigm:

The call to reform the tenure and promotion standards for digital media faculty

By

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Abstract:

The challenges facing tenure track faculty in the areas of digital technology are unique. The relative infancy of web and multimedia technology has created an unexpected quandary for digital scholars teaching within academia. In many cases, these teachers are the vanguard for the movement to educate students and faculty across disciplines in how to best utilize new technology in the academic, artistic, and economic sectors of society. Until now, professors teaching in the area of digital technology have been traditionally judged by the liberal arts definition of scholarship. However, in the case of new and evolving fields of study, there are alternative criteria that would be better suited for the digital disciplines, and would serve as a more accurate assessment on the quality of faculty scholarship as they march towards tenure, promotion and reappointment.

Under the current system there are numerous institutional biases and obstructions that unnecessarily complicate the pathway to tenure and promotion for faculty working with technology. If digital scholars are going to advance within the academy, the existing tenure and promotion system must be redefined and expanded to include a more modern definition of intellectual excellence.

There is a growing risk that the academy will begin to seem irrelevant if it continues to underestimate the cultural and technological shifts taking place all around us. The sharp divide in academia over the nature of what constitutes tenure-worthy digital scholarship cannot be universally defined without updating the current peer-review system. In "Tenure in a Time of Confusion," historian Paula Petrik states that the most pressing questions involving digital scholarship are "who will review digital projects, what criteria should be used to evaluate multimodal scholarship, and what skills and qualifications should the reviewers of digital research possess?" (Cheverie, Boettcher, and Buschman 2009, 224).

The key dilemma in assessing digital scholarship is that many academics, who have direct responsibility for setting standards under which digital practitioners are judged, are not technically conversant with and remain largely unaware of the distinctive training and discipline-specific research that is required to effectively excel in these fields (Cross 2008, 2). In fact, most committees responsible for evaluating candidates for tenure and promotion have historically been populated with senior faculty members from traditional non-technical disciplines. As a result, it can be difficult for some conventional scholars to appraise the academic merit of work from disciplines that did not exist twenty years ago (Jaschik 2009). More to the point, in many cases we are asking those tasked with setting standards for multimedia-based research to create fair and impartial rubrics to assess the quality of non-traditional faculty scholarship

when they do not adequately understand the technologies and the industries from which these digital professionals have originated. Even in cases where committee members may have a background in digital fields, the predominant attitude in the academy is that digital projects are inferior to publications in peer-reviewed scholarly journals, and should be viewed with some skepticism as to their merit as scholarship (Cheverie et al. 2009, 220).

In the most recent attempt to address the need to establish standards for digital scholarship, the Modern Language Association (MLA) takes the explicit position in its 2012 Guidelines for Evaluating Work in the Digital Humanities and Digital Media, that institutions of higher education that "recruit or review scholars working in digital media or digital humanities must give full regard to their work when evaluating them for reappointment, tenure, and promotion" (MLA 2012, 3). In addition to this basic request for broadening the definition of what constitutes digital scholarship, the new MLA guidelines highlight several areas in which institutions and digital practitioners can more effectively set the stage for fair and equitable assessment of multimodal scholarship. Or, to state it more succinctly, institutions of higher education need to create more open standards for evaluating scholarship that blend diverse forms of media as well as evolving technological methods to deliver that scholarship.

Many of the MLA's proposed solutions call for institutions to improve communications between governing bodies and digital practitioners by clearly documenting scholarship expectations at the beginning of the hiring process and

crafting discipline-specific guidelines for faculty producing digital scholarship so that they "can be adequately and fairly evaluated and rewarded" (MLA 2012, 1). The recommendations also call for engaging other digital experts, internal and external to the institution, at key review intervals to define what constitutes exceptional digital work, and to respect that work by viewing and assessing it within the medium for which it was created. Essentially the MLA is advocating that tenure and promotion committees should be discouraged from evaluating multimedia and web-based work by asking the faculty member to reproduce it in printed format. They are requesting that digital artifacts be reviewed only within their original digital media.

In the case of individual digital practitioners entering the tenure system, the MLA advocates that scholars be mindful of the emerging nature of their fields and negotiate at the start of their service the methods by which they will be assessed (MLA 2012). In short, the MLA is asking digital scholars to become fully engaged in their careers by taking a proactive stance in negotiating their responsibilities and methods of assessment, documenting their successes in regard to the impact that their work has on the furtherance of multimodal studies, and making use of all available institutional supports to maximize the opportunities for fair scholarly evaluation.

While the MLA should be commended for being one of the few professional organizations bold enough to buck the traditional academic evaluation system and to take on the task of laying the groundwork for the future assessment of digital scholarship, the guidelines they are proposing stop short of offering specific criteria that

can immediately be applied to improve the tenure and promotion process for digital scholars currently in the system. Many of the suggestions put forth by the MLA speak to the future while ignoring the present challenges facing digital practitioners. While it is understandable that the fast moving and fluid landscape of digital disciplines makes it difficult for any organization to craft guidelines to cover all contingencies, one underlying problem facing the academy is that unless immediate changes are made there is a strong possibility that many of the current generation of digital educators could leave traditional institutions of higher education and not return.

The New Paradigm: Immediate Solutions

Until now, faculty members teaching in digital disciplines such as web development and interactive design have traditionally been judged by liberal-arts definitions of scholarship. In most cases, this definition has been limited to whether or not the candidates for tenure or promotion have published articles in double-blind peer-reviewed journals. There is a significant limitation in applying the academy's existing reliance on peer-reviewed journals to the digital media in that, compared to other long established fields, there is a lesser number of refereed publications universally dedicated to the field (Ippolito, Blais, Smith, Evans, and Stormer 2009). The limited number of digital media specific journals can also present a professional stumbling block for digital faculty looking to advance through the ranks of the professoriate. The lack of appropriate publishing venues for their work can compel digital academics to seek

opportunities to publish in journals external to their fields of expertise and place them in direct competition, and at a great disadvantage, with authors from non-digital disciplines.

To address this need for change in the current tenure and promotion process, there are several benchmarks that can be immediately applied to provide a more balanced approach toward evaluating the multimodal scholarship of digital practitioners. The suggestions offered in this article to improve the system of tenure, reappointment and promotion could easily be implemented for digital practitioners currently in the tenure pipeline.

Step 1: Acknowledge the Distinctions between Production and Research Degrees

Part of the reason that digital practitioners find themselves in difficulty during the tenure and promotion process is that they have not successfully advocated for greater latitude in what constitutes scholarly activities. This includes being clear about various and often subtle subcategories within multimodal studies, most notably the distinction between digital humanities and digital media. The academic delineation between these two new fields is usually lost on many contemporaries from non-technical academic fields. To further complicate matters, the cross-disciplinary nature of these new academic fields has made the lines of demarcation between them significantly less precise. Since both fields are at their cores driven by, or at least defined by developing technologies, it can be easy for traditional academic colleagues to

confuse the two. Nevertheless, the differences between the areas of expertise are real and can require different methods of assessment in regard to scholarly production by faculty in each field.

Faculty members teaching in the digital humanities are generally from the liberal arts and social sciences where they study the theoretical effects of technology from a cultural and pedagogical standpoint. These instructors are less involved with the technical inner workings of systems, software, and hardware and are more focused on how the technology can be, and is, used in society and in the classroom. As an example, consider a history professor within the digital humanities, who can, without being able to program an interactive application on the steam powered train engine, utilize existing software to create a multimedia presentation to illustrate how the development of the railroad helped to transform the early American economy. While there are a growing number of academics, like University of Nebraska scholar Stephan Ramsay, who believes that digital humanists ("DHers") must be able to code and build multimodal artifacts (Gold 2012, 3), there are many DHers who are not required to have the system design skills necessary to educate students on the impact and educational uses of new technologies. Over time as digital convergence continues to blur the lines between the theory and production, this will become less and less true. However, at the present time, the academic responsibilities of digital humanists and media technologists can be somewhat different.

Educators within the field of digital media frequently originate in the visual arts or computer information systems disciplines. They are called upon to teach students how to create and implement systems, software, or hardware from the design phase all the way through the physical conception of new technology. Consequently, it is absolutely essential that these educators are experienced in building digital artifacts and systems in the course of their duties. As opposed to digital humanists, digital media technologists are usually less concerned with the cultural and pedagogical impact of their discipline and mainly concentrate their efforts in assessing which technologies and creative processes offer the greatest opportunities for long-term high-tech innovation. These practitioners are generally more focused on educating students in the specific creative and technical skills necessary to plan and develop the next set of digital tools.

As we begin to discuss methods of evaluation, in the case of the digital humanities—where many professors have research-centric PhDs in traditional fields such as English, the social sciences, and even economics—the peer-reviewed article may be an appropriate base from which to begin to assess their academic scholarship. The work of organizations like the MLA has had a profound impact in prompting traditional publishing venues to recognize the increasing value of digital technologies in influencing humanistic inquiry. This work has helped to redefine the methods of scholarship for future digital humanists by fostering a number of new journals, such as "Digital Humanities Now" and the "Journal of Digital Humanities," that recognize scholarly work beyond the traditional research article. These online and open-access peer-reviewed publications have aided educators who study the effects of technology from a cultural,

economic, and pedagogical standpoint in presenting their research in true multimodal fashion. The web-based nature of these new journals has created an environment where the work of digital humanists can move beyond the purely textual to a more visual and technologically dynamic presentation.

Conversely, the educators teaching in the field of digital media commonly have terminal degrees with a more production-centric focus resembling Master of Fine Arts (MFA). The degrees earned by these academics generally concentrate less on the traditional ability to research and write and place greater emphasis on the capacity to design or build new creations. For these practitioners, instead of using the peerreviewed article or monograph as the evaluation standard, academic institutions could adopt measures more closely resembling the criteria utilized in evaluating professors in the visual and performing arts in which educators are required to develop and maintain professional portfolios of their work. That approach would allow a digital media scholar's academic excellence and scholarly achievement to be determined by peers within their field through exhibition and critical portfolio evaluation. Since the concept of the professional portfolio has long been a foundation in creative fields, embracing this process to demonstrate digital practitioners' command of their production discipline would be a natural extension and a more effective base from which to begin to evaluate their scholarship.

At LaGuardia Community College, where I am a faculty member in the humanities department, there are differing standards applied to the creative and the

more traditional academic disciplines in regard to tenure, promotion and reappointment. Faculty members from the creative and performing disciplines, such as theater and fine arts, have far more latitude in what constitutes scholarly achievement within their areas. They are not required to publish in refereed journals, but must instead provide scholarly evidence of their work through recognized gallery exhibitions and artistic reviews of their portfolio creations in appropriate publications. On the other hand, faculty members in more traditional academic disciplines within the humanities, such as philosophy, are strongly encouraged to follow the customary path of academic publishing in order to successfully move through the ranks of the professoriate. Another institution within the City University of New York system, Hostos Community College, has taken this process a step further by adopting clearly defined written guidelines that are specific to the departments and to the disciplines in which faculty members are being assessed. In their 2010 Guidelines for Faculty Evaluation, Reappointment and Tenure, posted on their website, the college outlines not only rubrics for judging faculty but also establishes the use of a portfolio in the overall process.

While the specific methods of scholarly valuation outlined above may be appropriate for digital humanists and digital media technologists, these approaches should merely be a starting point for assessment and not the only, or even primary, system for measuring academic achievement. The digital convergence that is taking place in information technology has affected institutions of higher education.

Depending upon the university in question, faculty members in digital programs can be drawn together from multiple disciplines, both technical and non-technical, to

constitute new digital media departments or programs. It is not uncommon for instructors with backgrounds in fields such as fine arts, film, theater, graphic design, information technology, photography, computer science, English literature, business, and law to comprise the core teaching staff of a digital media program (Ippolito et.al. 2009, 72). As a result, any department consisting of faculty members drawn from such diverse fields can pose difficulties for their tenure and promotion committees in determining the scholarly quality of a scholar whose academic work is within a singular academic discipline. In many instances, the qualifications for success within the various subfields of digital media can be so varied that applying a single assessment standard to digital scholarship becomes impractical. The predicament then facing academics engaging in digital media is that the cross-disciplinary nature of their work necessitates that they advocate for themselves to develop and frame the context of their creative work in a manner acceptable to tenure and promotion committees (Jaschik 2009).

Step 2: Give Greater Recognition of Professional Development via Industry Certifications

In order to stay current with the technical advances that are affecting so many contemporary social and economic changes in the academy, educators in the digital disciplines are required to spend a great deal of their time updating and mastering new technologies. Ongoing training is necessary to enable the digital media faculty to bring evolving information into the classroom and to incorporate it into their traditional

research and production work. This can be especially true for educators who have the responsibility for teaching production-centric courses that require a firm grasp of current versions of software, hardware, and technical procedures. However, under the current tenure and promotion system much of this ongoing research and training work to maintain competence with digital technologies is unfairly regarded as merely supplemental activity. While some may argue that evolution and changing standards occur in nearly every discipline, the rapid progression of technical innovation is especially concentrated within the digital disciplines as entirely new software, languages and methods of development are adopted rapidly and repeatedly. These constant technical changes present a significant challenge for practitioners in the digital fields.

An effective way to address this disparity and credit digital practitioners for the constant technical preparation that is essential to their professional success would be to more fully credit the attainment of well-established industry certifications more fully in the tenure and promotion process. Obtaining qualified certifications from established and valued organizations is a rigorous process in which educators must demonstrate both practical and theoretical expertise. Industry certifications from leading companies such as Microsoft, Apple, and Adobe can also provide external professional validation of faculty expertise in both the technical and creative disciplines. In addition, these companies offer specialized teacher certifications such as the Microsoft Certified Trainer (MCT), the Apple Certified Trainer (ACT), and the Adobe Certified Instructor (ACI) distinctions that not only evaluate a candidate's mastery of the material but also appraise an educator's ability to teach technical and creative subjects.

Companies offering accreditations have established their own set of rubrics for software and system development that identify the critical information candidates must master before they can be granted the designation of Certified Trainer or Instructor. In the case of the Adobe Certified Instructor, candidates must demonstrate expertise not only with various creative software packages but also distance learning and presentation software such as Adobe Connect and Presenter, both of which facilitate the development of e-learning content for digital distribution. Attaining these certifications can greatly benefit faculty members teaching production courses as they are introduced to vendor specific workflows that can be passed on to students to facilitate greater efficiency in producing digital content.

The Mozilla Foundation has started a recent trend in online certification and skill representation that has begun to gain traction in many educational and professional circles. The Open Badges initiative is an open source standard in which can be adopted by organizations to issue digital badges as a means to verify educational achievement or competency. The badges would be issued and backed by an organization or school to serve as a graphical certification of accomplishment that could be displayed on websites, social media networks, or traditional offline venues such as resumes. If the badges are supported by well-developed rubrics to substantiate effective instruction in the subject matter, these symbols could function as a powerful endorsement of technical or educational proficiency. Institutions such as Codeacademy, Peer to Peer University (P2PU), and the Carnegie Mellon Robotics Academy have already, or are currently, developing open badges as a way to acknowledge technical achievement.

For many years, tenure and promotion committees have struggled to evaluate intellectual work from disciplines outside of their areas of expertise. It is for this very reason that publishing in peer-reviewed journals has been the default method for determining the academic worth of a candidate for tenure or promotion. Laura Mandell, a Professor of English literature and chair of the MLA Information Technology

Committee, has suggested that "A big part of the problem is that for the past 50 years, what people have done on promotion and tenure committees is to say 'OK, this was accepted by Cambridge University Press. I don't need to read it because I know its quality'" (Jaschik 2009, 1).

Committees have typically been able to "outsource" tenure and promotion decisions to peer-reviewed journals and rely on that process to vet the competence of fellow academics (Harley and Acord 2011). Unfortunately, this practice of evaluating by proxy can only be successful if there are established peer-reviewed journals within the field in question, or failing that, qualified authorities on tenure and promotion committees who can assess the work. What happens to this process when the scholarship that needs to be evaluated originates from a field like digital media where there are few peer-reviewed journals? Or in the case the digital humanities where standards for publications are only just beginning to evolve to include multimodal artifacts? How can tenure and promotion committees be expected to serve the best interests of their institutions, as well as fairly evaluate faculty in digital disciplines, without the benefit of this specialized expertise? The answer is simply that they cannot.

include select industry certifications, tenure and promotion committees would be presented with additional and appropriate measures through which to vet candidates for advancement.

Step 3: Give Greater Recognition to Curriculum Design and Development

Just as instructors within digital humanities and digital media must maintain their skills through ongoing professional development, designing and updating course materials in a rapidly evolving technical field is also a time-consuming process that requires constant research and updating. Under the current tenure and promotion system, curriculum design is unfairly regarded as a supplemental activity and as of lesser value than the traditional printed article.

Faculty members who are designing innovative online courses in various disciplines are at the forefront of an entirely new method of student instruction. Hybrid and online courses, because of asynchronous interaction between teacher and student, require a different level of preparation and engagement by instructors. The interpersonal dynamics of the face-to-face classroom are radically altered when the interaction between student and teacher takes place in a virtual environment. As new forms of online education, most notably MOOCs (Massive Open Online Courses), are being adopted at a startling pace within both private sector and traditional academic circles, by essentially relegating this new area of curriculum development to auxiliary status in the tenure and promotion process, many institutions are setting a precedent that may cause future complications. The secondary status given to curriculum

development, regardless of innovation, will help assure that only senior faculty with tenure will chance engaging in this new area of teaching and scholarship.

According to data released by the research firm Ambient Insight, the number of post-secondary students in the United States who will take some or all of their classes online is expected to climb sharply to more than 22 million by the year 2014. The CEO of Ambient Insight, Tyson Greer, has suggested that "the rate of growth in the academic segments is due in part to the success and proliferation of the for-profit online schools" (Nagel 2009, 2). Until recently there has been very little serious competition in the higher education arena for traditional academic institutions. Similar to many other industries, the introduction of technology, in this case online instruction, presents an opportunity for the significant digital disruption of higher education, especially if the curriculum development work of digital practitioners is not adequately recognized in their assessments by tenure and promotion committees and if the academy fails to provide incentives to academic curriculum designers to respond to the competitive threat from the private sector.

Step 4: Give Greater Recognition to Service Supporting Innovative Uses of Technology

Faculty with digital media expertise are in a unique position to educate students as well as faculty members in other disciplines in how best to utilize new technology in the academic, artistic, and economic sectors of society. As a result, colleges and universities are increasingly asking these educators to consult on and lead large-scale

initiatives that benefit the institution. In many cases these educators are asked to serve in these highly specialized roles at a fraction of the price that an outside consultant would be paid. Even in cases where faculty members are helping to build, support and promote pedagogical initiatives that enhance the reputation of the institution and numerous disciplines, the valuable services that they provide are rarely viewed as scholarship.

A perfect example of the type of service that should be recognized can be found in the recent launch of the City University of New York's Academic Commons project (http://commons.gc.cuny.edu). The CUNY Academic Commons was the brainchild of a small number of non-tenured faculty and staff who had the pioneering idea to create an online academic social network exclusively for use by the university's faculty, staff and graduate students. Built entirely on a foundation of open source software, the focus of the online network was to create an environment for communication and collaboration between the scholars teaching within the 24 units that make up the CUNY system. Since the launch of the online network in 2009 the project has expanded to include the "Commons in a Box" initiative, an open-source venture that will enable other academic institutions to create and customize their own virtual spaces for academic research and collaboration. However, in discussions with Matthew Gold, the project leader for the initiative and the only key person on the project in a traditional tenure-track academic role, I learned that his contribution to the creation and expansion of the Commons was defined as "service to the university," and thus not given the same weight as a traditional refereed publication would have been in his faculty evaluation for tenure and promotion. Despite that fact that the project has brought a considerable amount of attention to CUNY as organizations such as the MLA sign up to utilize the Commons in a Box software to support their own academic initiatives and institutional purposes (Roscorla 2011), Gold felt compelled to publish an article on his experience to have the project be counted as true scholarship. Gold's article, entitled "The CUNY Academic Commons: fostering faculty use of the social web" (Gold, 2011), was a case study on the implementation of the Common project to detailed the creation and impact of this new academically focused social network.

As a faculty member and digital practitioner, Gold's experience is not unusual. Sean Takats, a history professor and director of research projects at the Roy Rosenzweig Center for History and New Media, details similar challenges in his blog post "A Digital Humanities Tenure Case: Part 2: Letters and Committees." (Takats, 2013) Takats takes the bold step of pulling back the curtain and discussing in great detail the challenges he faced as a digital humanist on the tenure track. Takats was a project lead and codirector for Zotero, a digital software platform designed to assist academics in organizing and sharing research. The software he helped to bring to fruition has been widely recognized and adopted as an excellent resource within the digital humanities and communities well beyond. However many of the digitally inspired accomplishments achieved by Takats were met with resistance by members of his college-wide tenure committee because "some on the committee questioned to what degree Dr. Takats' [sic] involvement in these activities constitutes actual research (as opposed to project

management). Hence, some determined that projects like Zotero et al. while highly valuable, should be considered as major service activity instead" (Takats 2013, 1).

As technology continues to digitally disrupt the established methods of operating inside the academy, it will be imperative for institutions of higher education to be able to take advantage of innovative ideas developed by the multimodal "thought leaders" within our midst. In the coming years projects like the CUNY Academic Commons and Zotero, which converge on the boundaries bordering cutting-edge technology and ground-breaking pedagogy and academic collaboration, will become increasingly prevalent. If these endeavors are to be successful they will require expert stewardship that can usually only come from leaders familiar with both the technology and the pedagogy. Unless the academy starts to recognize in the tenure and promotion process the contributions of faculty with the capabilities to shepherd these types of digital initiatives, institutions may find it increasingly difficult to get non-tenured educators to play active roles in the future.

Step 5: Create Discipline-Specific Communities of Digital Innovators and Thought Leaders

Anvil Academic, a new joint project by the National Institute for Technology in Liberal Education (NITLE) and the Council for Library and Information Resources (CLIR), is seeking to fill the void in objectively judging digital scholarship by offering a new virtual ecosystem where non-traditional scholarly work can be evaluated under the direction of traditional university presses and publishing outlets. The founders of the

Anvil project hope to provide a true multimodal publishing platform that would enable all forms of digital media to be presented, reviewed, and sanctioned by well-established academic associations possessing the *gravitas* to substantiate the quality of digital scholarship (Kolowich 2012).

The Anvil project and similar initiatives, such as the CUNY Academic Commons, can help to provide answers to many of these problems by fostering virtual communities for multimodal scholars to collaborate and create more efficient methods of peer-topeer communication specific to the digital disciplines. For example, the CUNY Games Network, a group on the CUNY Academic Commons dedicated to the study and pedagogical uses of interactive simulations and games, is helping to connect digital practitioners from across the the CUNY system. These educators, many whom may have rarely been able to interact with their colleagues on other CUNY campuses, are now collaborating on research, sharing curricular material, and engaging in ongoing discussions surrounding all aspects of gaming. The Academic Commons, and similar projects, can help to establish essential enclaves within the ranks of the digital disciplines to promote reform and respond to the concerns that tenure and promotion committees may have on the topics of digital scholarship and peer review. For example, digital practitioners within the tenure review process could use similar online systems to establish portfolios to display their interactive creations and have them assessed by qualified peers in the larger academic community to ascertain the quality of the scholarship. The establishment of these online portfolios could also provide snapshots

to assess professional growth of a candidate over the period of time they are on the path toward tenure.

The underlying fears surrounding the establishment of discipline-specific communities invariably revolves around whether or sufficient peer review would occur in such environments. In *Planned Obsolescence*, Kathleen Fitzpatrick explains how the open-source blogging system CommentPress, integrated into the larger MediaCommons academic network, was used as a means to enable peers from within the digital humanities to provide an ongoing critique of her latest manuscript throughout various stages of the reviewing and publishing process. The asynchronous, communal, and open peer-to-peer review that took place within these digital confines would have been difficult to replicate in a traditional print setting. Fitzpatrick suggests that communal learning systems like CommentPress can become "useful tools not just for quickly and engagingly publishing a text, and for seeking feedback while a text is in draft form, but for facilitating an open mode of review" (Fitzpatrick 2011, 115) of digital publications. The open nature of these communal learning systems, where commenters do not reply in the manner attributed to standard double-blind, peer-to-peer reviews, can produce a higher level of trust in the critiques offered because the reviewers are not anonymous and have placed their opinions and academic reputations out in public.

Step 6: Broaden the Definition of Publications to Include Multimodal Productions

The definition of academic publishing should and must be expanded to include new multimodal outlets that are poised to overtake print-based media. Paula Petrik

notes that academics are traditionally "people of the book" and will have to adapt to a new digital paradigm in order to fairly evaluate "non-traditional forms and formats of scholarship" (Cheverie et al. 2009, 224). These "people of the book" will continue to have their perceptions of scholarship challenged as academics integrate larger amounts of technical, visual, audio, and web-based elements into their scholarly pursuits. For example, in the same way that high impact sites like the Huffington Post have supplanted conventional printed newspapers and magazines, the rapid adoption of tablet computers and smartphones will redefine the ways students and educators will consume and process information in the coming years. This transformation is already underway. Apple released its iBooks Author application in early 2012, which was designed to enable educators to produce and distribute content that previously required traditional publishing venues. In addition to conventional text, multimodal scholars will now be able to combine videos of speeches, slideshow presentations, music and spoken audio, animated 2-D and 3-D illustrations, and interactive applications, all within a digital format that will run on a tablet device running the Apple iOS. And Apple isn't the only company banking heavily on the future of fully interactive digital publications. The applications within Adobe's Digital Publishing Suite offer similar functionality as iBook Author, with the added benefit of being able to create content for alternative tablet devices by Microsoft, Android (Google), and others.

Now that faculty members have access to these alternative production applications, they will be fully able to design customized textbooks to better support the specific curricular needs of their classes and programs. The impact that will be felt on a

curriculum-design level will be nothing short of revolutionary for digital practitioners innovative enough to incorporate these tools into their scholarly practice.

Professor Stephen Nichols of John Hopkins University, in a discussion of academic peer review, believes that the continuing use of phrases such as "publications" as the primary seal of approval for tenure and promotion, younger faculty members will be discouraged from engaging in digital scholarship, since it is viewed as of significantly lesser value than print-based, peer-reviewed journals (Cheverie et al. 2009). The bias against digital scholarship that Nichols describes creates a climate of fear inhibiting experimentation, which is detrimental not only to scholars in the digital disciplines, but for the entire academy. Fearing to test the limits of academic and technical innovation runs contrary to everything that the educational system should aspire to achieve, and also has a negative impact on the evolution of pedagogical practice.

Ken Norman, a professor of psychology at the University of Maryland, agrees with Nichols. Based on research that he conducted on university models for tenure and promotion, Norman concludes that junior faculty members generally "wait to get tenure before they become cyberized" because "positive tenure and promotion decisions are based on grants and publications in top-tier journals" (Cheverie et al. 2009, 227-28). While delaying the integration of technical innovation into their scholarship may not constitute a burden for faculty in liberal arts and science departments, it can be a substantial professional barrier for digital practitioners. The speed at which

technological advances occur in digital disciplines creates a finite window of time to study and implement digital research. Any delay in assimilating new developments into their scholarship places digital scholars at risk of having their research become obsolete before it can ever be published. It is precisely for this reason that it is imperative for the academy to recognize that educators are no longer limited to the printed word in order to participate in deep and meaningful scholarly production. If this position is adopted by academic tenure and promotion committees they will be forced to take the appropriate steps to acknowledge these educational trends, and reward them accordingly.

Conclusion

The definition of scholarship can take many forms and will vary greatly based upon the academic discipline. One of the fundamental goals of scholarship is to create intellectual work that advances the field of study in which the academic endeavor originates. The holy trinity for tenure and promotion—encompassing publishing, service and teaching—has always been skewed more heavily toward publishing. The impediments to scholarly acceptance of digital media educators closely mirror the challenges that faced earlier academic pioneers of ethnic, Black and women's studies during the 1960s and 1970s (Jaschik 2009). It can be said that very little has changed since that time. The academy is an institution bound by tradition, and when new fields of study are developed, it often responds with hesitation and skepticism in response to emerging disciplines.

Under the current system there are numerous institutional biases and obstructions that unnecessarily complicate the pathways to tenure and promotion for digital faculty. Key among these barriers is the traditional peer-review system that has essentially contracted out the decision-making process for tenure candidates to a select group of academic journals and presses. Because most tenure and promotion committees lack the expertise to critique every discipline, especially in fields that span several areas of study, this aging paradigm is not practical for the emerging digital disciplines. Just as other industries outside of the academy have been altered by major economic and technical changes, higher education may experience a similar transformation unless the academy begins to adapt (Pearce, Weller, Scanlon, and Kinsley 2010). Without modifications many of these digital scholars, in order to validate their own definition of intellectual excellence, will leave the academy in favor of the higher salaries that they can command in the private sector.

Looking back on my own academic career, I am amazed at the naiveté with which I negotiated my academic contract and the methods by which my scholarship would be assessed. As the sole fulltime faculty member in a new discipline established by my college, I was completely unaware of the territory that would have to be traversed to fashion appropriate standards for my scholarly evaluation. While my educational and professional experience had equipped me to teach in the digital disciplines, I was ill prepared as digital media faculty member for navigating the terrain of the academic tenure and promotion process. If any of the recommendations from the MLA had been in place when I was hired to help establish a new digital technology

major at my college, my journey through the tenure process might have been a more balanced and constructive experience.

I transitioned to the university from the private sector more than a decade ago, and I have found that my experience is not unique among educators working within the digital humanities and digital media fields. The tenure and promotion system should embrace expanded definitions of acceptable scholarly venues to advance the practice of multimodal scholarship, not only to attract and retain the next generation of digital professionals, but also in order not to discourage new or established faculty members from engaging in technology-based pedagogy and scholarship.

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