

## ***A University Library Creates a Digital Repository for Documenting and Disseminating Community Engagement***

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### **Abstract**

Digital repositories are new tools for documenting the accumulated scholarly work produced at academic institutions and disseminating that material broadly via the internet. Digital repositories support all file types and can be adapted to meet the custom design specifications of individual institutions. A section for community engagement initiatives was created within ScholarWorks@UMass Amherst, the digital repository for University of Massachusetts Amherst. Collected materials can provide a comprehensive record of partnerships, results, and products that advance institutional goals while facilitating the development of individual academic portfolios. This innovative application of library science allows community engagement to be appropriately valued as the central organizing component of diverse academic activities.

### **Introduction**

**M**utually beneficial relationships with community partners create diverse opportunities for dynamic and compelling research, teaching, and public service. Finding ways to adequately document and disseminate the work that is accomplished in the context of community partnerships presents an ongoing challenge for many faculty and institutions. The activities associated with engagement, and the various results or products generated, are diverse and often transcend what is routinely captured by traditional institutional mechanisms. Advances in the field of library science offer new ways to document information on community engagement and can assist in the formulation of mechanisms and policies that will allow this work to be more broadly disseminated and more consistently valued.

### **Assessing and Tracking Engagement**

In higher education, teaching is typically measured by the number of courses an instructor carries and the total student credit hours. Course evaluations allow students to provide consistent information on teaching quality. Research expertise and

productivity are understood in terms of external dollars obtained, and the type and number of scholarly publications generated. Assessing engagement, however, presents a number of unique challenges. Engagement activities differ in their nature, scope, and scale across disciplines. Holland (2009) notes that when the fundamental basis for the engagement work is collaborative and the results must meet the needs of both institutional and community partners, devising ways to measure this work can be complex and confusing. Assessment is nonetheless essential, as any institution should understand what its faculty members and professional staff are doing, and document and communicate engagement efforts in effective ways.

Many instruments designed to help administrators and institutions assess engagement are diagnostic tools. These tools frequently take the form of checklists, or matrices that look broadly at institutional practices and policies. They may be employed episodically, for example, in the context of internally focused assessments or strategic planning exercises that provide insight into how deeply engagement has penetrated into an institutional culture and how to expand institutional capacity over time (Furco & Miller, 2009). To gain a more detailed understanding of the activities and partnerships faculty and staff are involved with, and to provide broad, consistent access to that information, routine and systematic institutional tracking of engagement is required.

Implementing an effective tracking system requires dedicated leadership that demonstrates institutional commitment to engagement. The documentation framework for the Carnegie Foundation's community engagement classification asks whether an institution "maintains systematic campus-wide tracking or documentation mechanisms to record and/or track engagement in community" (Carnegie Foundation for the Advancement of Teaching, 2009). This item appears in the "required documentation" section, and institutions must therefore answer affirmatively in order to be eligible for the classification.

A review of materials submitted by the 2008 applicants for the Carnegie community engagement classification helps to illustrate the significant variation in the types of mechanisms institutions maintain to document engagement activities (Campus Compact, 2009). For example, California State University, Fresno described mechanisms that capture the number of hours students devote to service-learning and the estimated economic impact of their work. Arizona State University, Emory University, and University of Wisconsin maintain institutional databases with information on

specific campus-community partnerships. These databases (<http://community.asu.edu/database/>; <http://gigi.oucp.emory.edu/communitypartnerships/eidb/query/overview.php>; <http://searchwisconsinidea.wisc.edu/>) include public search interfaces, accessible via the internet. Other institutions, such as DePaul University, Bates College, and the University of Vermont, describe more decentralized approaches to tracking engagement, deploying systems at the level of individual colleges, offices, or centers. Decentralized approaches may allow for mechanisms that are better tailored to specific kinds of initiatives or partnerships, but may make it more difficult to aggregate information into coherent or comprehensive institutional portraits.

A comprehensive mechanism for tracking engagement across an entire institution is employed at Michigan State University. The Outreach and Engagement Measurement Instrument routinely captures information on the amount of time faculty members devote to community partnerships, the issues addressed, and the external funding obtained to support their work. Each faculty member uses password-protected access to report information that can then be used by administrators for planning and accreditation as well as for communicating with a diverse range of university leaders and the public. The system enables the development of statements that illustrate the collective investment of faculty members in projects and partnerships that address problems throughout the state and region. The information is also used to identify compelling stories that can be more richly profiled in magazines, newsletters, and other promotional materials (Fitzgerald *et al.*, 2009).

## **Faculty Motivations**

Institutional mechanisms for documenting and disseminating information about community engagement are potentially powerful resources that can be designed in a variety of ways to advance diverse institutional goals. Different members of a university community may seek to promote awareness about engagement and generate increased public support for this type of work, but it is important to appreciate individual faculty motivations for documenting and disseminating their own engagement activities and how those motivations may be distinct from some of the broader institutional reasons for tracking, aggregating, and sharing this information. Faculty members are necessarily concerned with building and maintaining a portfolio of individual work that demonstrates disciplinary expertise. For many faculty members, this includes establishing a reputation and a record of effective engagement with community partners that may be closely interwoven

with their research and teaching. Most institutional assessment tools and tracking mechanisms are not designed or easily adapted to assist faculty in documenting their work in ways that adequately capture the depth and complexity of their engagement expertise and the linkages to scholarship.

### **Digital Scholarship**

Through advances in library science, new opportunities are emerging for the documentation and dissemination of outreach and engagement that can enhance institutional assessment and tracking while supporting the development of individual faculty portfolios. Recent advances in electronic communication are challenging traditional norms and standards for how knowledge is created and disseminated. As emerging methods for sharing scholarly information become firmly established, the potential exists to create mechanisms that support more consistent documentation and broader dissemination of engaged scholarship.

The traditional role of the library in the academic enterprise has generally been one of disseminating the results of academic work through the acquisition of books and journals, and by providing a physical location for the exploration and review of the products of academic scholarship. Librarians have partnered with faculty members to build and maintain teaching and research resources in either print or electronic form. Librarians create subject guides and other standard gateways for library resources and provide bibliographic and information literacy instruction for students.

### **A Challenge to the Status Quo**

The rising costs associated with scholarly publications present academic libraries with a growing challenge. In the 1980s, academic journal costs began to increase dramatically, far exceeding the average rate of inflation. The median annual journal cost rose more than 100% between 1986 and 1992, and a total of 227% between 1986 and 2002. The median cost of monographs also increased, rising by 75% over that 16-year period (*Kyrillidou & Young, 2003*). In short, libraries must spend more than previously to maintain their scholarly collections. The increases have been especially dramatic for journals, with the amount paid to maintain serial collections increasing 374% between 1986 and 2008 (*Kyrillidou & Bland, 2009*). Over time, the function of university libraries in particular, and the role of academic institutions in general, will be undermined by the financial unsustainability of systems for providing access to the results and products of research and scholarship.

As publishing costs grow, academic library collections may shrink unless new models for managing and disseminating scholarly products are adopted. Open access publishing offers a promising solution. According to Suber (2004), the term *open access* refers to materials available via the internet that can be accessed free of charge and that are free of most copyright and licensing restrictions. Open access for scholarly publication is realized through open access journals and digital repositories. Open access journals maintain academic editorial boards and offer internet access to peer-reviewed scholarship with a specific disciplinary or conceptual focus. Their primary distinction from traditional academic journals is that neither individual users nor institutions are charged for access. An online directory (<http://www.doaj.org/>) lists more than 1,000 open access journals that are currently published in the United States. A digital repository is a publicly accessible system created and maintained by an academic institution for documenting the creative and scholarly work produced at that institution, and for disseminating that material broadly via the internet. Harvard University (<http://dash.harvard.edu>), Massachusetts Institute of Technology (<http://dspace.mit.edu>), and the University of California system (<http://escholarship.org/>) are examples of the many academic institutions that now maintain digital repositories for the accumulated work of their faculty, staff, and students.

As open access publication makes the academic work of faculty members more widely and more easily accessible, it seems likely that materials published in this manner will be cited more frequently by the scholarly community. A correlation between open access publication and increased scholarly citation was first observed in the field of computer science (Lawrence, 2001). More recently, Antelman (2004) confirmed this association in four other disciplines (philosophy, electrical engineering, political science, and mathematics). In that analysis, the increased citation frequency of open access materials, compared to those with restricted access, ranged from 45% in philosophy to 91% in mathematics. Similar results were observed in an investigation focused on astrophysics (Kurtz *et al.*, 2004) and by a team that considered 10 different academic disciplines (Hajjem, Harnad, & Gingras, 2005).

### **Changes in Intellectual Property Practices**

Open access publishing necessitates a careful consideration of who holds the legal rights to scholarly materials. The extent to which authors retain rights to their scholarly works when they are acquired by publishers varies widely. Many librarians currently

assist faculty members in retaining the rights to their own scholarly materials so they can be published in traditional formats as well as in digital repositories or on other publicly accessible websites. As electronic data storage becomes commonplace, fewer scholarly materials will be designated “out of print.” Within this context authors should understand and negotiate the rights to their scholarly materials prior to publication. Several high-profile institutions, including Harvard University and Massachusetts Institute of Technology, have passed formal resolutions recommending that faculty members deposit their academic papers into a publicly accessible institutional repository, and that they pursue agreements with publishers that will allow these materials to remain there indefinitely. The Scholarly Publication and Academic Resources Coalition (2007) has developed educational resources for authors as well as addendum templates to attach to publisher agreements that allow authors to retain the right to distribute their own works more openly.

University libraries are proactively advancing digital scholarship. Broad campus conversations, however, are needed to consider the value of new dissemination mechanisms and for developing and implementing policies that meet the needs of individuals and institutions. By participating in these discussions and working with university librarians, campus engagement leaders can help ensure that mutually beneficial relationships with community partners, and the results or products generated, are appropriately considered as part of an institution’s intellectual output.

### **A Digital Repository for Community Engagement**

Operating a digital repository that can accommodate the accumulated intellectual output of an institution’s faculty, staff, and students requires significant planning and adherence to conventions. A joint task force of the Research Libraries Group and the National Archives and Records Administration has identified best practices, and created guidelines for storing content and accessing collections via digital repositories (*RLG-NARA Task Force on Digital Repository Certification, 2007*). The guidelines include policies and procedures for the acquisition of content, access, staffing, and disaster and recovery planning. The guidelines also serve as a certification framework applicable to academic institutions, national libraries, and digital archiving services that are privately operated or not affiliated with larger academic or municipal entities.

## **Software Applications for Digital Repositories**

A software application, typically hosted by a private vendor, facilitates access to a digital repository by those who will post materials, and those who maintain the collections. The software vendor will often train library staff and provide ongoing technical support. The software applications have standard templates that are adapted to an institution's typical scholarly products (e.g., manuscripts, book chapters, student dissertations). Institutions can also request custom modifications or can create parameters for unique content and materials that will be collected to represent the accumulated intellectual output of an institution's faculty, staff, and students.

## **An Example at the University of Massachusetts Amherst**

In 2009, the University of Massachusetts Amherst (UMass Amherst) created a section for community engagement within ScholarWorks@UMass Amherst, the institution's digital repository. This section of the repository, which is open and accessible to the public at <http://scholarworks.umass.edu/engagement>, was created by the University Outreach Division in collaboration with UMass Amherst Libraries shortly after the institution was granted the Carnegie community engagement classification designation. The effort was initiated, in large measure, to address key areas for institutional improvement identified while developing the documentation for this designation. It was intended specifically as a means to improve institutional mechanisms for tracking and reporting activities and impacts associated with community engagement initiatives.

In attempting to document community engagement within a digital repository, there are few standards or conventions to rely upon. Creating a clear structure and attendant guidelines was therefore important, and required innovation. For example, information in the community engagement section of ScholarWorks@UMass Amherst is organized so that all materials and products are presented in the context of specific partnership initiatives. For each initiative, the lead investigator develops a brief narrative description of the primary goals or questions, the methods and activities, and the anticipated outcomes or products. These short narratives should contain an explanation of how community partners are included in the specification of each separate element. The lead investigator also identifies collaborators and geographic locations associated with each partnership. Identifying distinct projects is

particularly important for large, complex, or sustained partnerships encompassing separate initiatives that operate independently and have individual goals or time frames.

The materials and products associated with community engagement are diverse. Digital repositories support all file types (e.g., text, photos, video). Primary materials can be posted along with any number of supplemental materials (e.g., data sets, detailed graphics, transcripts, popular press, technical reports) to help convey a more accurate and thorough account of the activities and the results. Course syllabi, as well as student activities and projects, can also be posted to document the provision, quality, and impact of community-based teaching. Materials in the community engagement section of ScholarWorks@UMass Amherst must be posted under one of three headings: teaching; research, creative, or professional activities; or outreach and public service. These categories conform to general elements in the university's mission statement, and to the three specific areas of faculty responsibility identified in the current faculty contract (*University of Massachusetts, 1976*) and in the annual review process. This structure underscores the notion that community engagement generates activities and products related to all areas of the institution's mission, and in all domains of faculty responsibility.

An implementation team that included librarians and university outreach staff was charged with facilitating the process of populating the community engagement section of ScholarWorks@UMass Amherst. The team considered 15 "representative partnerships" originally identified when the university was assembling the documentation for its Carnegie community engagement classification application. Ten partnerships were selected, and the campus leader for each was contacted. Eight of the 10 participated in a pilot phase of uploading materials to the community engagement section of the repository.

The implementation team collaborated with members of the pilot group, helping individuals access the system, assemble primary documents and supporting files, develop narrative descriptions, and post or remove content. Rather than create new content, individuals more often relied on existing materials that were modified so initiatives could be presented in a relatively clear and consistent manner. When pilot members attained a degree of autonomy working with the system, materials could still be reviewed by members of the implementation team, a process facilitated through automatic e-mail notifications that are generated whenever new content is posted. The implementation team

solicited detailed feedback from the pilot group on the perceived benefits and limitations of the system. Investing the time needed to prepare and post materials was the most consistent challenge. On the other hand, users appreciated the variety of file types that were supported and the ability to post materials that would reach other scholars as well as collaborators, policymakers, practitioners, and the general public.

University Outreach staff and librarians expected the community engagement section of ScholarWorks@UMass Amherst would establish a dedicated institutional archive of university-community partnerships that would allow faculty to build their individual portfolios while creating greater institutional capacity to demonstrate the scope and value of work with external partners. Staffing for the initiative was redirected, however, when the Outreach Division at UMass Amherst was eliminated early in 2010. It is clear that the community engagement section of the repository will be very difficult to maintain and impossible to expand without the benefit of dedicated staffing.

### **Summary and Implications**

Recognizing the collaborative potential between emerging library technology and community engagement is a significant innovation. Community engagement activities posted and stored in a digital repository present opportunities for advancing institutional goals. At larger institutions especially, simply grasping the multitude of disparate and disconnected ways that faculty, staff, and students work with external partners is a formidable task. Capturing detailed information on community engagement in a repository can serve as a fundamental step toward effective demonstration of collective impact. Moreover, the information may be used in support of strategic planning, public relations, fund raising, or when convening faculty or regional partners.

For example, information on community engagement collected in a digital repository could supply evidence for a Carnegie Foundation community engagement classification designation application. Depending on the specific design parameters of the repository, an institution could assemble a list of representative partnerships and a record of courses that incorporate community-based learning, and draw from an archive of scholarly products associated with outreach and partnership activities.

## Potential Barriers and Opportunities

Robust participation would require substantial investments of time and effort by faculty or staff to organize and post materials. Faculty with experience and expertise in community engagement may respond positively to new methods for establishing a scholarly or professional record of materials and products that lack well-defined mechanisms for documentation and dissemination. This includes materials often referred to as “gray literature” that vary by discipline, such as conference papers and presentations, technical and research reports, government publications, curriculum guides or other teaching materials, working papers, and creative presentations or performances (Sulouff, Bell, Briden, Frontz, & Marshal, 2005). In addition, the algorithms applied in search engines such as Google and Google Scholar prioritize information located within institutional repositories because they are deemed credible sources (Vaidhyanathan, 2008). Appearing at the very top of a list of internet search results supports broader access and exposure for faculty scholarship and disciplinary expertise.

The extent of participation by faculty will likely depend to a large degree on the institutional context. At University of Massachusetts Amherst, the vice-provost for outreach and the director of libraries directed significant staff time to the implementation team that designed the community engagement section of ScholarWorks@UMass Amherst and managed the pilot phase. The work of the implementation team, however, proceeded largely without direct input or involvement from academic or administrative leaders, and there was no attendant campus conversation that considered the value of the initiative or how it reflected institutional priorities. The focused participation of colleges and academic departments could have served to identify appropriate disciplinary practices or expressions of engaged research and teaching and the kinds of products these activities generate. This level of input would inform guidelines for individual usage and help ensure that time investments were commensurate with potential rewards. With attentive academic and administrative leadership, a digital repository for community engagement could not only be appropriately positioned within the faculty reward structure, but could also serve as a catalyst or focal point for broad campus discussions and deliberations on the evolving nature of scholarship.

## Conclusion

Digital repositories have the potential to make complex information about engagement with community partners more visible, more valued, and more thoroughly understood. Existing institutional tracking mechanisms can support effective external marketing and communication. They fail, however, to capture adequate details. Digital repositories can facilitate the documentation and dissemination of engaged scholarship. The expanding community of engaged scholars can create portfolios of individual engaged work while also contributing to disciplinary knowledge.

A digital repository can be employed to establish a dynamic compendium of community partnerships that are central to the total intellectual output of an institution. The Community Engagement section of ScholarWorks@UMass Amherst was developed in the belief that it would help administrators track and report on external partnerships while also helping individual faculty and staff members establish an accessible public record. Without effective mechanisms for capturing the complexity and impact of work with external partners, this vital domain of academic activity is less likely to be adequately understood or sufficiently valued.

## References

- Antelman, K. (2004). Do open access articles have a greater research impact? *College and Research Libraries News*, 65(5), 372–382. Retrieved from <http://hdl.handle.net/10760/5463>
- Campus Compact. (2009). *Campus Compact features Carnegie Classification applications for civic engagement 2008*. Retrieved from <http://www.compact.org/initiatives/carnegie-community-engagement-classification/>
- Carnegie Foundation for the Advancement of Teaching. (2009). *The Carnegie elective classification for community engagement 2010 documentation reporting form*. Retrieved from <http://classifications.carnegiefoundation.org/downloads/2010-Documentation-Reporting-Form-PREVIEW-v2.pdf>
- Fitzgerald, H. E., Farrell, P. A., Bargerstock, B. A., Van Egeren, L., Swierenga, S. J., & Casey, K. M. (2009). *Scholarship-focused outreach and engagement: Public scholarship, civic engagement, and campus-community partnerships* [PowerPoint presentation]. Retrieved from [http://outreach.msu.edu/documents/Scholarship-FocusedOutreachEngagement\\_051109\\_web.pdf](http://outreach.msu.edu/documents/Scholarship-FocusedOutreachEngagement_051109_web.pdf)
- Furco, A., & Miller, W. A. (2009). Issues in benchmarking and assessing institutional engagement. In L. R. Sandmann, C. H. Thornton, & A. J. Jaeger (Eds.), *Institutionalizing community engagement in higher education: The first wave of Carnegie classified institutions* (New Directions for Higher Education, pp. 47-54). San Francisco, CA: Jossey-Bass/Wiley Publishing.

- Hajjem, C., Harnad, S., & Gingras, Y. (2005). Ten-year cross-disciplinary comparison of the growth of open access and how it increases research citation impact. *IEEE Data Engineering Bulletin*, 28(4): 39–47. Retrieved from <http://eprints.ecs.soton.ac.uk/12906/>
- Holland, B. A. (2009). Will it last? Evidence of institutionalization at Carnegie classified community engagement institutions. In L. R. Sandmann, C. H. Thornton, & A. J. Jaeger (Eds.), *Institutionalizing community engagement in higher education: The first wave of Carnegie classified institutions* (New Directions for Higher Education, pp.85-98. San Francisco, CA: Jossey-Bass/Wiley Publishing.
- Kurtz, M. J., Eichhorn, G., Accomazzi, A., Grant, C. S., Demleitner, M., Murray, S. S., Martimbeau, N., & Elwell, B. (2004). Worldwide use and impact of the NASA Astrophysics Data System digital library. *Journal of the American Society for Information Science and Technology*, 55. Retrieved from <http://cfa-www.harvard.edu/~kurtz/jasist1.pdf>
- Kyrillidou, M., & Bland, L. (2009). *ARL statistics 2007–2008*. Washington, DC: Association of Research Libraries. Retrieved from <http://www.arl.org/bm~doc/arlstat08.pdf>
- Kyrillidou, M., & Young, M. (2003). *ARL statistics 2001–02: A compilation of statistics from the one hundred and twenty-four members of the Association of Research Libraries*. Washington, DC: Association of Research Libraries. Retrieved from <http://www.arl.org/bm~doc/arlstat02.pdf>
- Lawrence, S. (2001). Online or invisible? *Nature* 411(6837), 521. Retrieved from <http://citeseer.ist.psu.edu/online-nature01/>
- RLG-NARA Task Force on Digital Repository Certification. (2007). *Trustworthy repositories audit & certification: Criteria and checklist*. Retrieved from [http://www.crl.edu/sites/default/files/attachments/pages/trac\\_0.pdf](http://www.crl.edu/sites/default/files/attachments/pages/trac_0.pdf)
- Scholarly Publication and Academic Resources Coalition. (2007). *SPARC's author rights initiative*. Retrieved from <http://www.arl.org/sparc/author/index.shtml>
- Suber, P. (2004). *Open access overview*. Retrieved from <http://www.earlham.edu/~peters/fos/overview.htm>
- Sulouff, P., Bell, S., Briden, J., Frontz, S., & Marshal, A. (2005, July/August). Learning about grey literature by interviewing subject librarians: A study at the University of Rochester. *C&RL News*, 66(7). <http://hdl.handle.net/1802/1875>
- University of Massachusetts. (1976). *Academic personnel policy of the University of Massachusetts at Amherst, Boston, and Worcester, article IV, section 4.1*. Retrieved from <http://www.umass.edu/provost/sites/umass.edu/provost/files/uploads/redbook.pdf>
- Vaidhyanathan, S. (2008, March 28). The Googlization of everything. *In Engaging the web for scholarship, pedagogy, and publication*. Symposium conducted at University of Massachusetts Amherst.

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