

Editorial Board Thoughts: Reinvesting in Our Traditional Personnel Through Knowledge Sharing and Training

Mark Dehmlow

Lately I have been giving a lot of thought to how those of us in technology positions can extend our impact throughout our organizations. With finite budgets and time and relatively low personnel turnover, I have realized that the solution goes beyond merely finding ways that technology can optimize workflows through automation. I have been working in academic library technology for nearly 20 years and when I began my career, virtually all areas of technology required specialized staff – from supporting general computer applications to managing the technical infrastructure that underlay our core systems. These days, technology is still a specialty, but the function of technicians has become more focused on providing infrastructure and much of the general application support we used to provide has become ubiquitous and has become an expectation of almost all library positions. Managing email, creating specialized formulas for data analysis, navigating operating systems, even developing basic databases, are now regular parts of library work. The trend of technological infusion will continue but instead of general technical tasks, almost all new library positions will require deeper technical skills. This is due, in part, to the function of knowledge work becoming more specialized as libraries focus on the areas where they can create the most value and those new domains require more technical expertise to be effective.

Perhaps the most striking example of this evolution is in the transition of catalogers to metadata specialists. The days of working with a single metadata format (MARC) in a single, tabular interface (catalog) are quickly slipping away and being replaced by metadata structured in multiple complex schemes, expressed in formats like XML and JSON. Instead of acquiring data from OCLC, libraries need to work with web-based APIs to harvest metadata. And the tools for manipulation require basic programming skills in languages like Python or working with open source applications that look little like the integrated library systems we are used to. Working with these tools can enable metadata experts to customize metadata at scale, but it requires new knowledge and even new ways of thinking about metadata and metadata manipulation. Cataloging isn't the only position undergoing change in academic libraries, either. Acquisitions is pushing toward greater automation and patron driven selection. The catalog is becoming more like a bookstore and the discovery landscape includes a panoply of resources that are purchased only at the point a user clicks on a link to a resource. Acquisitions is also occurring at larger scale, and requiring the ability to work with thousands of items in a batch, to select based on the qualities of what libraries want to make available, to analyze usage trends, and to load, update, and remove metadata as quickly from our discovery environment as possible. The tools to accomplish this are similar to those for metadata. Beyond technical services, we're beginning to see the role of the subject selector transition from building broad disciplinary collections toward a focus on curation

Mark Dehmlow (mdehmlow@nd.edu) is a member of the ITAL Editorial Board and Director of Library Information Technology, Hesburgh Library, University of Notre Dame, South Bend, Indiana.



of specialized collections requiring digitization and digital curation. The tools to accomplish this are digital asset management systems and web-based digital exhibition tools which are specialized content management systems. Subject selectors are transforming into digital content creators and managers.

Technologically-driven change regularly outpaces generational personnel turnover in libraries, and given that technological change continues to grow exponentially, it is clear we need a flexible workforce and an organizational commitment to training and professional growth. While organizations are rewriting positions to include technical skills, we will always have a preponderance of staff that started their careers in libraries with depreciating skillsets. Merely directing staff to webinars, conferences and self-driven development isn't enough. Multi-day workshops are great as long as there are opportunities to apply learning upon returning to work. To guarantee skill retention, sustained training needs to be directed towards the specific skills needed now and based in actual work, not just theoretical exercises. The challenge, then, becomes how to implement such a program and identifying who can provide the necessary training. How can specialization be disseminated to non-specialists? Many libraries have some of the needed resources close at hand, even if staffing is thin and technical resources scarce. It requires thinking a bit pragmatically to reuse the resources libraries do have, and for technologists to evolve with demands as well, transitioning our roles from technology experts alone to a hybrid of practitioners, teachers, and enablers.

Teaching is, itself, a specialty and many IT professionals are unlikely to have developed that skillset. Most libraries, though, have staff who do have experience and expertise in training and pedagogy. Evolving towards in-sourced technology development will undoubtedly require IT staff to first learn effective teaching methods and basic curricula development. They will need a framework to take a set of specific skills and build ad-hoc courses with medium range learning objectives. Teaching can occur in the context of actual work scenarios so that learning is put to practical use as part of that training, and skills retention improved. Libraries can become labs for cross-training and knowledge sharing through leveraging our teachers and technologists in interdisciplinary partnerships and collaboration with a focus on internal growth so that library organizations can meet continuously changing demands.

Once staff have been trained in new technical areas, there is another opportunity for IT professionals to extend their impact, by dividing technology-driven projects into the parts that require deep technical work and the parts that require transferable technical skills. If technologists start looking at ways to implement technical solutions in componentized ways instead of as end-to-end solutions, they have the opportunity to empower newly trained staff to contribute in practical ways through building solution foundations and then delegating configurable application inputs. As an example – developing a full application stack requires considerable programming skill, but learning to create and update extensible stylesheets to transform XML-based metadata is a teachable skill. IT professionals could develop applications that take a configuration file and an XSL file as inputs while staff with XSLT training can modify the configuration to include parameters for connecting to APIs or loading XML. Trained staff could then modify the XSL to transform data to their specifications without having to pass the task back to the IT professional.

Moving toward more holistic technology capability in libraries will require all personnel to be committed to evolving to meet the emerging needs of our organizations – IT professionals included. For decades, technologists have been in the privileged position of having the necessary skills to advance the profession’s digital future, but it will be important for technologists in libraries to integrate the many valuable skills other personnel can offer so that they also can evolve in ways that best support our organizations – leveraging foundational library skills to enhance overall organizational capacity to accomplish tasks that are increasingly requiring technical expertise.

I won’t pretend it will be easy. It will require libraries to prioritize organizationally-led training, even amidst the flurry of demands around us, but I think it is also critical to the future of the profession, and the old adage that winter pays for summer feels apropos here. Technologists will need to be open to incorporating foundational library skills, to collaborating and learning from other library specialists, to thinking of their positions more broadly, and, for those who live in ivory towers (you know who you are), to eliminating the silos they’ve built and collaborate, cooperate, and engage. Technologists are an important part of library ecosystems with what we contribute operationally, but I think we can have a greater impact if we propagate our knowledge in an effort to increase the profession’s overall technology capacity and become agents to support knowledge workers’ future skill development.

