Library-as-Publisher: Capacity Building for the Library Publishing Subfield

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Introduction

The role of publisher is increasingly assumed by academic and research libraries, usually inspired by campus-based demands for digital publishing platforms to support e-journals, conference proceedings, technical reports, and database-driven websites. Although publishing is compatible with librarians' traditional strengths, there are additional skill sets that library publishers must master in order to provide robust publishing services to their academic communities.

To help library publishing services mature into a consistent field of practice, practitioners in this growing publishing subfield increasingly cite their need for specialized training and professional development opportunities. For example, the authors' conversations with participants in the Library Publishing Coalition (LPC), a collaborative network of 60 North American academic libraries involved in publishing, have revealed that no existing graduate-level training program adequately prepares practitioners for the full range of theoretical, practical, and organizational issues involved in publishing. LPC participants have also noted the relative lack of continuing education opportunities targeted toward those who are engaging in publishing—whether in a library, university press, or commercial publishing environment.

This essay provides a brief history of publisher training and uses this context to think about how and where library publishers may engage in capacity building to inform and train this growing publishing subfield. Throughout the essay, we integrate findings from a series of interviews conducted by the authors with 11 industry leaders from several publishing sectors, including university presses, library publishers, and commercial publishers (see Appendix A). We conclude with recommendations for pathways forward, focusing on seven key areas in which library publishers need additional training opportunities. This essay focuses primarily on North American activities.

What Is "Library Publishing?"

"Library publishing" is a growing subfield of publishing. It has been defined (broadly) as "the set of activities led by college and university libraries to support the creation, dissemination, and curation of scholarly, creative, and/or educational works." [1] [#N1] Using formal production processes, more than 100 North American libraries currently publish original works by scholars, researchers, and students. [2] [#N2] These publications include journals, monographs, Electronic Theses and Dissertations (ETDs), gray literature, conference proceedings, data, textbooks, and websites.

Library publishing is differentiated from the work of other publishers—including commercial, society, academic, and trade—in large part by its business model, which often relies heavily on being subsidized through the library budget, rather than operating primarily as a cost-recovery or profit-driven activity. Libraries are relative newcomers to the field, largely beginning this work in a digital environment over the last 20 years.

As Karla Hahn noted in 2008, "library-based publishing programs are pragmatic responses to evident needs, not services in search of clients." [3] [#N3] Many libraries first became involved in publishing because their local faculty and students approached the library for assistance in producing digital scholarly works. In some cases, these are new, born-digital journals, books, or multimedia projects. In other instances, as October Ivins remarked in an interview with the authors, the library may "revive canceled print journals or assist in making other publications viable that would have been dropped by their creators."

These publishing experiments have matured into programmatic channels for a variety of curatorial and economic reasons. From the economic angle, libraries have found that the cost of producing scholarly works within the library is reasonable. Even if libraries only publish a subset of the scholarly record, some libraries argue that this investment could serve both to increase access to scholarship (via open access models, largely preferred by library publishers) and decrease

the library's expenditures over time. And libraries have been further motivated to publish content because of their curatorial charge. Licensing and intellectual property constraints often prohibit libraries from managing and preserving today's digital scholarly publications that are produced by external publishers. By publishing digital scholarship themselves, libraries are able to guarantee the persistence of the scholarly record over time.

These distinguishing features provide library publishers with a certain level of freedom from conventional publishing methodologies (particularly those associated with the pre-digital production era). They also motivate libraries to experiment more broadly than many of their counterparts. Their unique position also offers a clear opportunity for collaboration with university presses, in which libraries could "handle less viable titles, or support supplemental materials that could not be included in a printed monograph," Ivins explained.

Even so, as publishers, libraries engage in the same fundamental production activities as the broader field does, from acquisition to dissemination (including both digital and printed works). As libraries embrace this new role, they have a concurrent need for training opportunities, both for existing library staff/faculty who want to grow their publishing skill sets through continuing education and other professional development activities, and also for the next generation of staff/faculty who are beginning now to pursue this new role through degree programs, internships, and other preparatory steps.

So what opportunities for training currently are available to library publishers? Where and how do librarians learn publishing skills and methods, both theoretical and practical? What gaps and opportunities are there in the current education and training landscape for this rapidly growing subfield of publishing?

History of Publisher Training

> *We insist on intensive graduate work for medicine, the law, and university teaching—even for high school instruction—so it seems only logical to insist on advanced and intensive instruction for those who want to enter a profession that is so vital a contributor to the political and cultural life of the nation. —John Tebbel, 1984*

Publishing evolved for centuries as what has famously been dubbed "an accidental profession," one intentionally lacking in professional training channels and opportunities. The industry had few agreed-upon roles and rules, and each publishing house had its own practices and definitions, conveyed to new acolytes through apprenticeship and on-the-job training rather than through a classroom experience. Editing in particular was considered more an art than a skill, something best gained through a combination of acumen and experience.

The earliest attempts to provide educational courses, broadly defined, appeared in the 1940s, with a smattering of experiments, including a 1943 course sponsored by the Book Publishers Bureau (now the Association of American Publishers) and the renowned workshop launched at Radcliffe in 1947, then known as the "Summer Publishing Procedures Course." [4] [#N4] Summer institutes and continuing education departments served as the home for most of these early efforts throughout the 1950s–60s, with key distinctions between these two educational forms. The summer institutes were often driven and taught by publishers; the academic courses more often were designed by educators with little input (or interest) from publishers. [5] [#N5]

By the 1970s, more than 100 institutions were offering more than 200 academic "courses," as documented in 1976 by the Association of American Publishers (AAP). [6] [#N6] The AAP's "Committee on Professional Education for Publishing" (also called "Education for Publishing Program") worked to establish curriculum guidelines for these programs, as well as establishing the AAP's Stephen Greene Memorial Library and a number of AAP-based training opportunities. The vast majority of these courses targeted "book to market" processes, including editing, marketing, finance, and management. Most did not focus on such art and trade school processes as printing, layout, and design.

Transformations in the publishing landscape from the 1980s onward moved at a rapid pace, and developments such as industry consolidation and the shift from print to digital production required professionals and educators to learn and deploy new skills. This impacted the educational environment, not least because publishers industry-wide, from entry level to seasoned leaders, needed to build capacity and perform an evolving set of functions. Also during the 1980s and 1990s, numerous educational programs were designed to improve managerial training for women and to increase ethnic and racial diversity throughout the scholarly publishing field.

During the 1990s, education for publishing became more formalized through the rise in bachelor's and master's degrees, and these programs became well established by the early 2000s. These academic programs have had to adapt to an ever-changing publishing landscape. As early as 2000, surveys documented the need for new emphasis on business and information technology in publishing education and training programs, direct results of the industry's consolidation and

its shift toward digital production. [7] [#N7] By 2004, publishing educators and community members identified major forces reshaping publishing, including globalization, consolidation, and increased reader demands for multimedia options. [8] [#N8]

The last decade's rapid changes have produced friction between those advocating for new skill sets and practices (e.g., content management, digital asset management, rights management, new business models [9] [#N9]) and those concerned with the retention of traditional values (e.g., "initiating and promoting quality content, constructive and compassionate editing, imaginative design, and courageous gatekeeping" [10] [#N10]). These factions remain at odds, both within the industry itself and also between the industry and academia regarding how best to train and educate the next generation of publishers.

Publishing Education Today

Current assessments of the educational needs of the publishing industry resemble those of the prior decade; however, they are nuanced by an additional 10 years of evolving practices. Publishing educators and interested industry leaders alike cite that "publishing needs ambitious, positive people for whom technology comes naturally, facility with social media is a given and who have a desire to build all manner of services for writers and readers." [11] [#N11] New positions are being created and filled in the field, including "social media assistant," "data scientist," and "applications developer." For many leaders in the publishing industry, the focus in this new milieu is on training employees to create better value for authors and readers. One observer notes, "We do need people … who can see ways that technology can help build a different kind of engagement between readers and writers." [12] [#N12]

Publishing education programs at the undergraduate and graduate levels at a small number of institutions such as New York University are incorporating coursework in book metadata and infrastructure, web architecture and content creation, application creation and development. [13] [#N13] Pacific University offers a degree program in "editing and publishing" to teach the next generation of authors about current trends and practices in the field and to embed scholarly publishing literacy directly into the undergraduate curriculum. [14] [#N14] The curriculum is changing, and many programs are growing their base of students. [15] [#N15] While some speculate that the publishing industry's apprenticeship approach of years past is being replaced by degree programs, the industry struggles with an appropriate balance between the application and management of technology, business practices and models, and creating social and business value via producing and disseminating information. [16] [#N16] The existence of multiple publishing subfields (trade; academic; STM —scientific, technical, and medical), each requiring a different set of qualifications, presents a challenge for the scalability and sustainability of publishing education programs. The majority of extant programs focus on trade publishing, leaving a gap in training for academic and scholarly publishing. [17] [#N17]

Notably, publishing education still fulfills no industry requirement for publishing careers, regardless of subfield (academic, trade, etc.). Unlike other professional tracks, which use a graduate degree as a qualification for employment (e.g., teaching, librarianship, law, business, medicine), the publishing industry has not established a specific track or degree as part of a credentialing process. [18] [#N18] Indeed, many publishers consider apprenticeships the only valid rite of passage that prospective publishers—especially acquisitions editors—pursue. Some eschew entry-level applicants with "publishing" degrees, citing their preferences for applicants they can train themselves. [19] [#N19] As a result, publisher education and training seem to serve two core purposes: first, to forge connections with others in the industry, and second, to gain knowledge and skill sets that may help to advance one's career.

There are six main categories of publisher education operating in the North American context today: academic degree programs, summer institutes, professional development workshops, distance-learning opportunities, in-house training, and internship programs. Some of these target specific publishing subfields (e.g., trade v. academic) or genres (e.g., journals v. monographs). Each of these addresses different audiences within the publishing community, as briefly described below.

1. **Academic degree programs**. Degree programs are offered at both the undergraduate and graduate levels. Often housed within English and journalism departments, the most comprehensive of these degrees provide a grounding in publishing histories, clear understandings of the business of publishing, and a balance of theory (learned in the classroom) and practice (learned through internships and co-ops). Many of these programs provide a broad-based foundation in publishing, including magazine, book, and "electronic" or "digital media" (e.g., New York University's M.S. in Publishing: Digital and Print Media).
2. **Summer institutes (e.g., Denver Publishing Institute, Columbia Publishing Course)**. Taught by top industry professionals (who reputably do this work *gratis* and in order to forge their own connections and scout

for new talent), summer institutes follow the immersion model first implemented at Radcliffe in 1947. They most often are taught on academic campuses and are administered through partnerships with continuing education departments or with industry associations. These residential programs are networking opportunities for emerging professionals, usually within the first few years of their publishing careers. Some of these summer institutes now cover "digital media" as a topic alongside "book" and "magazine" publishing. There are also several institutes oriented toward mid-career professionals, including the Yale Publishing Course.

3. **Professional development workshops**. These run the gamut from short workshops on targeted topics to longer-term courses that help professional publishers advance their careers, usually moving toward management and editorial positions. Most of these offerings come through publisher associations and societies (e.g., Association of American Publishers, Association of American University Presses, Society for Scholarly Publishing, STM – the International Association of Scientific, Technical and Medical Publishers) or through continuing education programs at universities and colleges. Notably, bepress launched a three-day, library-focused "Scholarly Publishing Certification Course: A Training Program for Library-Led Publishing Initiatives" in October 2013.
4. **Online or distance programs**. Often coupled with in-person professional development opportunities, there are a number of online programs today. Some offer degrees or certificates through continuing education departments of universities and colleges, and others provide short, targeted training or self-paced opportunities (see, e.g., the Association of Learned and Professional Society Publishers [ALPSP] series of webinars for publishing professionals). One of the most intriguing new ventures in this space is the Public Knowledge Project's PKP School (http://pkpschool.sfu.ca [http://pkpschool.sfu.ca]), a self-described "online, open, self-paced collection of courses designed to help improve the quality of scholarly publishing around the world." Launched in 2013, this curated collection of open courses provides some instruction specific to PKP's own product, Open Journal System (OJS), but it also includes a track designed to help practitioners learn how to be editors and provides the necessary administrative and intellectual infrastructure to support a scholarly journal.
5. **In-house training programs**. Publishing houses, particularly the larger corporate entities, have developed their own corporate training programs to provide continuing education on targeted topics to professionals throughout the company and immersion experiences for new recruits. These are not open opportunities, and there is little available documentation about them accordingly, but these currently comprise an important channel for commercial publishing training.
6. **Internship programs.** Many university presses and commercial publishers provide internship opportunities for new professionals. Some of these are designed for local students of a university; others are offered to broader audiences (e.g., The New Press Internship Program). These opportunities are designed to provide prospective publishers with an immersive experience, sometimes focused on one specific area of publishing and sometimes covering the full arc of the publishing process.

Where Do "Library Publishers" Fit?

Personnel involved in library publishing activities often have grown into these positions. Those that have received formal training often have gone through courses/workshops offered by scholarly publishing societies (Society for Scholarly Publishing, Association of American University Presses, STM) or have participated in technology-specific training (e.g., PKP training courses on online publishing and open access publishing models, bepress scholarly publishing certification course).

Currently, there are no known "library publishing"–specific educational tracks available in the U.S., although at the time of writing, several library schools are beginning to explore the possibility of creating courses, badges, and certificate programs. Interestingly, at the time of writing, none of the publishing education programs described above specifically target librarians as prospective attendees, with the exception of the highly regarded Denver Publishing Institute (DPI), where the website's "Who Should Apply" section includes the following five identified audiences:

- College graduates seeking their first job in publishing
- Career-changers interested in opportunities in the field
- Those presently working in publishing who seek a broader view than a specialized job can provide
- **Librarians interested in knowing more about the industry that provides them with their books**
- Publishers, or students, from abroad who want to find out how it is done in the United States

Clearly, the idea that librarians might lead publishing programs is still relatively unknown and un-addressed within the traditional publishing education channels. Do these programs provide education and training opportunities that are appropriate for library publishers? Or are the differences great enough between the library publishing subfield and other publishing groups to warrant a different approach to training altogether?

More to the point, in an era defined by quick transitions and changing models, have publishing education programs themselves become outdated? And if so, might information schools and library science programs have an opportunity to provide training opportunities that are better attuned to the experimental, evolving environment in which most digitally driven publishing occurs today?

Publishing Education: Adapting to New Skills and Evolving Roles

Interviews were conducted by the authors in September 2013 with eleven thought leaders representing academic, university, and commercial presses as well as libraries and iSchools. Along with environmental scanning, these interviews demonstrated the definitional transformations under way in the concept of "publisher" and also revealed a set of core skills for current and future publishing professionals; the gaps and promising opportunities for training; and productive teaching and learning approaches.

The defining characteristic of today's scholarly communication landscape is change. Traditional publishing models that were primarily focused on producing and disseminating—to an often limited readership—a finished scholarly product are challenged continuously today by changing scholarly communication technologies, open movements, information policies and directives, and experimental, digital-only discourse in fields such as the humanities. Stephen Griffin emphasized that academic "publishing" increasingly means reporting on all stages of the scholarly workflow. In this new paradigm, he explained, "the data, algorithms, computing source codes, intermediate artifacts, and approaches" are published in order to clearly communicate the results. He suggested the need to think about "publication in an altogether new way, and 'documents' in entirely new terms."

All of these changes have had implications both for the library and for the broader ecosystem of academic publishing. Leaders in the field acknowledge that publishers, whether libraries, scholarly societies, university presses, or commercial publishers, are now facing major changes in the field brought on by the proliferation of information technologies. As Raym Crow explained in an interview with the authors, new technologies mean "anyone can be a publisher," and technologies that make production and dissemination easier have transformed the processes and workflows that defined a publisher thirty years ago. Publishers still provide traditional value adds (e.g., copyediting), but processes that are increasingly emphasized are associated with selecting new kinds of publications and projects that, as Charles Watkinson remarked, "transform author created works into something interesting for readers."

Some publishers are further along in supporting a transformed scholarly communication landscape, while others struggle to address the new demands of scholars in different disciplines. Industry leaders in library publishing, for example, argue that more emphasis should be placed on ensuring the "sustainability and conformity to standards and discoverability" of new experimental forms of scholarship, such as digital humanities projects (Watkinson, 2013). Publishers address those same discovery and interoperability issues in the sciences and are increasingly called on to meet the demand for more documentation for reproducible research (Griffin, 2013).

The core functions of a publisher have remained largely the same throughout the 20th century and into the early 21st, but how publishers perform these functions has changed, and experts agree that new skills are needed to do this work well and to take on additional roles to address changes in the field. Judy Luther noted that how we approach training publishing professionals depends on whether or not we are training to redesign publishing. Industry leaders suggest "monitoring trends" (Luther, 2013) and "experimenting with applying traditional skill sets to working with different media" (Watkinson, 2013) as ways to develop professionally and to gain a better understanding of where gaps may exist.

Current strengths in publishing education programs appear to be in traditional areas such as "peer-review, marketing, business models, printing and distribution," areas identified by Rosenblum as important new skills for library publishers. [20] [#N20] However, the conservativism demonstrated within these programs may not sufficiently address emergent skills needs such as developing scholarly publishing literacy programs for authors and researchers, leveraging networked technologies to support traditional and newer forms of digital publication, and managing complex experimental publishing projects. Opportunities may exist for master's programs in library and information science to address these gaps. One observer suggested a THATCamp style approach to engaged learning may be the way to go if training goals are to change the publishing model completely (Luther, 2013).

Identifying Core Knowledge and Skills for 21st Century Publishers

Specific competencies will continue to be a moving target. However, the following types of knowledge and experience (which encompass both technical and soft, traditional and emerging, entry-level and leadership skill sets) have been identified as having enduring importance for publishing professionals.

Scholarly Publishing Context

Academic publishers need a comprehensive understanding of the scholarly publishing landscape as it exists today and an awareness of challenges and future directions for the industry. Specifically, professionals should enter the field with a grasp of the range of existing publishers (commercial, society, university, etc.); the range of functions within a publishing program; "the ways in which research gets produced, consumed, recycled back into the system" (Watkinson, 2013); the range of traditional and experimental practices and products; the historical background of the field (how publishing got to be the way it is); and the more recent history of the field, including the so-called scholarly communications "crises." Familiarity with this broader context enables professionals to think beyond traditional processes and models and helps them better adapt services to the needs of content producers and consumers. An awareness of how the industry is changing prepares both new and seasoned professionals to lead that change.

Academic Context

Understanding the mission of the academy helps scholarly publishers serve their authors, editors, and audiences. In interviews, Ivins emphasized that publishers need to maintain an outward focus even as they develop the skills and knowledge specific to their line of work. Too often, "publishers develop their narrow, deep, vertical areas of expertise … and wind up divorced from the whole university," she cautioned. Watkinson described "a lack of understanding of authors and how authors behave and what the incentives are for them to do their work."

Bonn emphasized that scholarly publishers need to learn to ask the right questions as they conceive their mission and consider their role in the context of their institution. This includes questions such as "Why do we want to publish scholarship? Are we trying to enhance the reputation of a home institution or trying to improve work in the field or creating a network of scholars? How does publishing help the mission of the institution?" Understanding the academic context also helps publishers better interact with and serve authors. "It comes back to understanding author goals and expectations … Being able to locate goals and expectations within the capacity of your publishing house. Does the request match your goals as a publisher?" she explained.

Scholarly publishers must also possess a fundamental knowledge of the different disciplinary practices and cultures they will encounter when working with authors and editors. This may be particularly relevant for library publishers, who work very closely with faculty, students, or other researchers in the editorial and production processes. This does not necessarily entail deep disciplinary knowledge. As Watkinson explained, "a crucial skill is the ability to assess the needs of a particular discipline and quickly get to grips with its norms and market needs. One of the things about that is that it's an advantage to not be too close, to be outside." Understanding these communities helps publishers serve them better as both authors and audiences.

Soft Skills

A variety of soft skills are both exceedingly important and largely difficult to teach in the classroom. Publishing professionals typically develop soft skills, such as relationship building, creative problem solving, and effective communication, on the job over the course of years. Kevin Stranack described the ability to "develop communities of participation around your area of interest," which entails an understanding of what motivates people and how to maintain their involvement.

Soft skills may be increasingly important as publishers outsource or combine more technical tasks such as copyediting and layout. Relationships, innovation and experimentation, and an exceptional grasp of good editorial work will continue to distinguish publishing programs.

Strong communication and relationship-building skills are important not only for serving authors, but for keeping up with developments in the industry. Publishing professionals rely heavily on their professional networks (conferences, personal correspondence, professional organizations, etc.) to keep abreast of current trends and issues.

Business Planning and Management

Business skills cover a wide range of competencies related to planning, project management, product development, marketing, leadership, copyright knowledge, and other aspects of coordinating a successful and sustainable publishing program.

Planning for sustainability, which includes tasks such as identifying revenue streams and writing a business plan, was frequently cited as a major training gap. Crow emphasized the need for publishers to "understand the actual cost of what's being done and cogently understand resource allocations in a standard budgetary sense." Particularly in libraries, he argued, where an operating budget covers many of the associated costs, publishers are "shielded from resource allocation issues" for the time being. However, he encouraged libraries to begin developing the necessary knowledge to plan for other funding scenarios in the future.

In addition to long-range planning, publishing programs need professionals with strong project management and product development skills. These include identifying and working with partners (e.g., campus units, faculty, vendors, scholarly societies); writing policies and contracts; understanding and addressing intellectual property, copyright issues, and other legal concerns such as antitrust, libel, and trademark law; marketing services and products; keeping pace with rapidly changing technical platforms; and assessing needs of content creators and audiences. Crow summed this up as having the ability to "make conscious decisions … not making decisions without knowing it."

In particular, publishers will increasingly need skills that help them consider non-traditional publications from a business perspective. Crow cited a lack of training that addresses "how publishers deliver value, serve audiences, plan activities, and consider the logic under all of that" in more "disruptive models" of scholarly communication.

Technology and Workflows for Production, Distribution, and Preservation

Scholarly publishers will continue to need staff members who are proficient in traditional production and distribution process such as layout and typesetting and metadata and markup.

In addition to proficiency in traditional publishing workflows, publishers will need staff members who possess both a big-picture understanding of digital publishing and preservation technology and a basic understanding (minimum) of software development.

Familiarity with the current and developing slate of tools for digital publishing and their application is essential. Bonn explained, "Good publishers successfully connect creators and users … they have to be cognizant and educated about the use of digital tools, networked technologies, and the implications of their choices. It's important while you're in the trenches to be able to ask about the best mapping between content, format, and intended use." This will be increasingly important for publishers working with experimental and emerging forms of scholarship. Sandy Thatcher and others predicted a growing need for publishers to manage complex digital humanities projects and other publications that go beyond text to incorporate data and interactive/multimedia elements.

Publishers increasingly need staff with at least elementary software development skills, including coding, design, and usability. Griffin predicted that publishers will "need to hire technology and data professionals who [among other skills] understand the ways in which the journal material can be structured for long-term use in other venues, and develop multiple versions of the same journal that suit different purposes instead. These people aren't data analysts or comp scientists, they're people who understand data markup, data structuring, document models: the type of people iSchools (like those in the iSchool Consortium) are producing."

Editorial and Acquisitions

Sandy Thatcher noted, "the editorial function is the key to all of this: that's what makes this publishing." The editorial functions of publishing were described in several interviews as a soft skill. Paul Courant, for example, explained it as "the thing good editors do. They get with an author and figure out how to make the project good." He elaborated that successful editors know how to work with authors and content to make the most of a project by, among other things, connecting it with the right format and digital technologies.

The acquisitions function was cited as the element most often missing from educational programming. Competition between editors and presses has led to this function being framed as an art, not just a skill set. As Thatcher explains, "people don't want to share trade secrets about how they do their editorial acquisitions. They can teach general skills, but not the tricks of the trade that people pick up along the way. And editors at one press don't want to teach another press." The distinctive set of processes a press and/or editor develops within a press environment often pivot on this acquisitions function, and they are rarely transmitted beyond a limited circle of interaction.

This educational gap around acquisitions takes on an interesting cast in the changing environment, as the acquisitions process itself may be shifting. In the text-based publishing realm, long-established branding in a topical area and relationships within disciplinary specialties have helped define which presses published leading works in a given field. In the current publishing ecosystem, digital scholarship is rising in both prominence and importance. Where text-based

acquisition has typically focused around a topical area (e.g., a particular university press becomes renowned for publications in particular disciplinary genres), digital acquisitions may be more powerfully defined by platform and visibility. As the publishing process itself continues to transform, the way that acquisitions editors perform their work may likewise change dramatically. The selection process may begin to focus on identifying works that correspond to platform-specific strengths of a press (e.g., particular types of data visualizations or mapping proficiencies, etc.).

Editorial functions are one of the key areas that newer publishers, like libraries, struggle to define. As Ivins cautions, "A publishing program is a program. It's not passive, it's not just talking to faculty about having them work with us." Having clearly defined specialties is likewise important, as noted by Bonn: "They should have an awareness of selection and acquisition criteria and ability to articulate those criteria."

Recommendations for Productive Pathways

In addition to the essential content that training should cover, interviews revealed four general hallmarks of effective approaches to training in this area: a holistic/broad view, opportunities for cross-fertilization, emphasis on hands-on and interactive learning, and responsiveness to current needs.

Holistic Approach

A holistic approach to learning is desirable (and lacking in the current landscape). While training programs exist for a variety of specific and technical skills, Stranack pointed out that "what's really needed is an entry point into a variety of useful information and learning opportunities." Training should expose professionals to the broader scholarly communications, publishing, and academic contexts and give them at least an overview of major developments and challenges in the field. This holistic approach has a geographical component, specifically around encouraging better alignment of training opportunities and processes globally.

Opportunities for Cross-Fertilization

Effective training will bring together professionals across sectors and at different levels within organizations. Without exposure to the practices and priorities of the broader field, publishers risk siloization and tunnel vision. Griffin pointed to the reluctance of publishers to engage with libraries outside of the customer/vendor relationship. "There's a gap between these cultures; no one's come up with [an] idea on how to gracefully merge and give these two cultures the chance to reconcile their differences and forge long-term strategies that will benefit both of them." [21] [#N21]

Hands-on Experiences

Publishing has traditionally been an apprenticeship profession. New staff members learn on the job through hands-on training. Watkinson explained that "publishing is still something that probably needs to be learned in an experiential way." Effective training will emphasize project-based learning that requires students to consider context, work through processes to see how they add value, and learn from case study examples.

Timeliness and Modularity

Developing relevant and timely training is critical, given the rapid changes in publishing practices, business models, and technologies. Meadows emphasized that "training should be timely and responsive." Training should be developed proactively to address perceived near-future needs and should be easy to adapt and update in response to new and evolving needs. This can be accomplished by designing training modules that can be added to, exchanged, and eliminated as required. Another promising pathway lies in curating preexisting open resources into a web platform. Just-in-time delivery is important for busy professionals who may lack the time and resources to attend lengthy in-person programs.

Conclusion

The seismic shifts affecting the academic publishing industry are not sector-specific. Indeed, the same challenges are faced by the range of players in this area, including university presses, trade publishers, library publishers, and commercial publishers. What differentiates the fields is their degree of experimentation and their willingness to transgress against long-held publishing conventions, something that the new arrivals (libraries and new commercial entities, including self-publishers) may have in their favor.

Educational needs across these sectors likewise seem to converge, with unmet needs for better training in soft skills (flexibility, relationship handling) and digitally relevant hard skills (from XML coding to altmetrics analysis). Several groups are well poised to address these needs, industry-wide, including master's programs in information science and library science; digital humanities and digital science programs; and a broad range of shorter-term in-person workshops

(e.g., AAUP, SSP offerings) and on-line, self-paced coursework. Another promising trajectory may be that of site-specific training that combines analysis of prospective partnerships (e.g., campus-based, regional, disciplinary, or platform-based groups) with targeted training to address the opportunities available in the quickly changing landscape.

All of these delivery mechanisms must be poised for rapid transformations over the coming years. The field of scholarly publishing (much less the broader fields of publishing) will not be well served by courses that quickly ossify and become outmoded. This critical moment of change may best be addressed by a combined approach that uses short-term, lightweight, and lower investment training mechanisms to teach practices and hard skills, and longer-term, more structured, and higher investment educational programs to teach the soft skills and inculcate values that fluctuate less rapidly.

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Appendix A: List of Interviewees

Maria Bonn, University of Illinois Graduate School of Library and Information Science

Paul Courant

Raym Crow, Chain Bridge Group

Stephen Griffin, University of Pittsburgh School of Information Science

October Ivins, Ivins eContent Solutions

Judy Luther, Informed Strategies

Kevin Stranack, Public Knowledge Project

Sanford Thatcher

Charles Watkinson, Purdue University Press and Purdue University Libraries

Notes

1. Library Publishing Coalition website. (2013) See http://librarypublishing.org/about-us [http://librarypublishing.org/about-us] ⇧ [#N1-ptr1]

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5. Ibid. [#N5-ptr1]

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21. In a growing number of institutions, the university press is being reframed as a formal partner of the library, including through the merging of the university press with the library (see, e.g., Purdue University, University of North Texas, Penn State, Utah State, Wayne State, Syracuse, and Oregon State). This trend may help to encourage the creation of long-term strategies that benefit the scholarly publishing field. [#N21-ptr1]

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